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AUTHOR	Myers, Miles
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ABSTRACT

A four-year study by the Bay Area Writing Project was conducted to determine the writing competency of inner-city secondary school students on proficiency tests. To determine whether patterns among secondary students reflected developmental trends, the study also examined samples of student writing from grades 4 through 12, for the years 1978, 1980, and 1981. The study concluded that the essays at the four levels of writing competency contained four underlying speech events: (1) encoding, (2) conversations, (3) presentations, and (4) expositions. Based on the theory of underlying speech events, which provides a way of understanding the problems of students who are attempting to move from one competency level to another, the study suggested fluency, focus, and form as three primary problems for students as they move from low to high competency levels. (Writing samples are included in the body of the report, and appendixes include an example of coded copy of student writing during a videotape session, rankings of anchor- or prototype papers by national sample, examples of coding sheets, samples of the anchor- or prototype papers, and a ten-page bibliography.) (HTH)

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"THE SPEECH EVENTS UNDERLYING WRITTEN COMPOSITION"

by
Miles Myers

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A STUDY OF EFFECTIVE WRITING INSTRUCTION IN INNER-CITY SECONDARY SCHOOLS

University of California, Berkeley
Bay Area Writing Project
James R. Gray - Principal Investigator

CS 208 821

ABSTRACT

"The Speech Events Underlying Written Composition"

By Miles Myers

This four year study of writing in inner-city schools, including three years of data collection and one year of data analysis, investigated the writing competency of secondary students in proficiency examinations. To determine whether patterns among secondary students reflected developmental trends, the study also examined samples of student writing from grades 4 through 12. The study concluded that the essays at four levels of writing competency had four underlying speech events: (1) encoding, (2) conversations, (3) presentations, and (4) expositions. The theory of underlying speech events provides a way for understanding the problems of students who are attempting to move from one competency level to another. Three problems seem primary as students move from low to high competency levels: (1) fluency, (2) focus, and (3) form.

CHAPTER I: What are the Levels of Competency?

The central concern of the present study will be to specify the levels of competency in school writing, and this is part of the larger question of what people are doing when they learn to write. To answer this question, previous writing research has used three different units of analysis and three different definitions of competency--linguistic, cognitive, and communicative. In linguistic competency, the emphasis is on the internal structure of various grammatical levels (Chomsky, 1965) or the internal structure of texts (Christensen, 1967). In schools, this definition often becomes a question of whether a student can write this or that sentence or paragraph. In cognitive competency, on the other hand, the emphasis is on the mental frames (Minsky, 1975), schemes (Piaget, 1971) or operators and executive schemes (Pascual-Leone, 1978), which enable the student to solve a problem or learn language. In schools this definition often becomes a question of what strategies to use to learn a task. For example, students are sometimes taught to examine questions at the end of a chapter in order to develop an appropriate executive scheme or plan for reading. Finally, in communicative or sociolinguistic competency, the emphasis is on the roles which speakers and listeners assume in a given situation (Garfinkle, 1967; Cicourel, 1973; Hymes, 1974). In schools, this definition of competency often takes the form of learning to write to difference audiences.

In writing research, each of these three ways of defining language competency tends to feature different units of analysis: the written form, the procedures of the composing process, and the rhetorical relationships in the writing episode. In studies of written forms, the researcher examines the form of particular sentences, paragraphs, or patterns of organization. One of the earliest of these studies sampled 10,000 sentences from the writing of children and adults and found that the number of complex sentences increases from fourth grade through college (Storz and O'Shea, 1924). In studies of the composing process, on the other hand, the researcher examines the procedures of writers at work. When Graves (1975) reviewed the number of studies which examined the writing process, he found that only two studies "seem to have involved the actual observation of the behaviors of writers while they are in the process of writing" (p. 227). Those two were the studies of Emig (1969) and Holstein (1970). In the third area, the study of rhetorical relationships, the researcher examines, among other things, whether writers demonstrate audience awareness or flexibility. In one such study, Shatz and Gelman

(1973) found that young children could tune their language output to suit different audiences.

Each of these definitions of competency describes the writing task with a different emphasis, one emphasizing sentence and text form, another emphasizing processing strategies, and another calling attention to the audience situation. The central hypothesis of the present study is that students at different levels of competency in school writing may have problems in different areas of competency and that these levels may show developmental trends. The question is what are these different levels? The investigation of such a question will require different kinds of data from several different years and grades.

This present study's first hypothesis is that some students fail to a minimum level of writing competency because these students have not automatized basic cognitive and motor skills, causing these students to break their writing flow into units smaller than those found in the writing flow at other levels and to allocate their limited time to such matters as handwriting, spelling, capitals, and so forth. These units of language, called "idea units" (Chafe, 1980, Kroll, 1977) or "information units" (Halliday, 1967), are indicators of the flow of thought:

> One of the worthwhile questions that can be asked about language is how it follows, and at the same time influences a speaker's train of thought, and how--as it moves forward itself--it provides clues as to the nature of the thought processes which lie behind it (Chafe, 1979, p. 2).

Coding the language units or written product is, therefore, one way of studying the cognitive strategies of writers. Three other ways are immediate observation, self-report, and video-tape coding. For reasons to be discussed later, this present study will use both product coding and video-tape coding to describe differences in flow of thought at different levels of writing competency. No other study using product coding and video-tapes has examined the writing flow of secondary students at different levels of writing competency. Matsuhashi (1979) studied four good high school writers, and Pianko (1979) studied two groups of community college students, one group called remedial and the other group called traditional. Matsuhashi studied the actual flow of the writing, but Pianko did not. Pianko counted the number of pauses in a writing episode, but did not have a direct record of how long the pauses were.

The second hypothesis guiding this study is that some students fail to reach the district's minimum level of writing competency because these students, although they have learned many of the basic cognitive skills, have not learned to use appropriate communicative or sociolinguistic strategies. These strategies are interactional and prototypical. The interaction quality of communicative competence has been characterized as understanding the "superordinate message" (Bateson, 1972, originally published in 1955), the script of an event, (Schank and Abelson, 1977), or "the frame" of language interaction (Fillmore, 19). All of these terms refer to a set of structured social expectations which readers or writers use to organize their comprehension or production of language.

Bateson (1972) has argued that the interactional frame or superordinate message determines how a given act of communication is to be interpreted. In "play" for instance, the metamessage is "This is play," and, as a result, a slap will not be interpreted as hostile. His argument suggests that within an interactional frame the participants are communicating on two levels, the metamessage "This is play" and the message of the particular act such as a slap, which might mean something like "I gotcha."

Ross (1970), like Bateson, argues that the superordinate message is a meta-sentence which hangs over the discourse and which establishes I-you rhetorical relationships. One example is the sentence "I state (to you)" which is the superordinate message for most declarative sentences. Ross's approach has some similarities to the work of Austin (1962) and Searle (1969) who argue that a sentence or utterance has at least two dimensions, one its propositional content, largely matters of truth and logic, and the other its illocutionary force, largely matters of social relationships between participants in the speech act.

Linguistics has increasingly turned to anthropologists and sociolinguists for helpful descriptions of the interactional features governing speech events (Fillmore, 1976). Halliday (1978), for example, divides the speech event into tenor of discourse (relationships among participants), field of discourse, (subject matter), and mode or channel of communication (telephone, lecture, and so forth). Sociolinguists Brown and Fraser identify three primary traits in a speech event--participant relationships, purpose of discourse, and setting (1979), and Hymes (1964) identifies eight, including participants, setting, channel, topic, the mode of speaking, and the genre or form of the message.

For purposes of this study three features of speech events wil be emphasized: (1) the relationships of the participants, (2) the purpose of the discourse, and (3) the setting. These features have rather broad considerations when they are applied to actual speech events, but their focus must narrow when they are applied to the imagined speech event underlying a piece of writing. For this reason, different terms will be used to describe the three features underlying speech event in writing: (1) Distancing, whether the participants have a close or distant relationship; (2) processing, whether the purpose of the discourse is to define and organize reality or to approximate it; and (3) modeling, whether the text projects itself as a permanent and formal setting or medium for discourse or as a transitory and informal setting or medium.

These interactional features, although important for describing language interaction, are not the functional form of a writer's competence. In other words, language users are guided more by prototypes than by a list of features. This point has been argued by Bruner (1960) who says that functional frames must be first a structured pattern and second a general outline, without many specific details and features.

> Perhaps the most basic thing that can be said about human memory, after a century of intensive research, is that unless detail is placed within a structured pattern, it is rapidly forgotten (p. 24)....We remember a formula...a caricature or picture that preserves an essence--all of them techniques of condensation and representation (p. 25).

Bruner has also argued that these structured patterns and general formulas are sometimes based on "typical instances" from experience. For instance, Bruner, et. al., found that subjects often use typical instances of given colors to discriminate among colors on a color wheel (Bruner, et. al., 1956, p. 64). Bruner's notion of"typical instance" is very similar to Eleanor Rosch's notion of prototypes. Rosch argues that people categorize things in their world around prototypes, not a detailed list of features. She found, for instance, that the category bird coheres around the prototype robin and that some members of the category, such as penguin, are near the boundary, and other members, such as chicken, are closer to the prototype (Rosch, 1977).

Rosch's approach to categories of meaning is very similar to Wittgenstein's. Wittgenstein argues that words like game or chair do not have an absolutely uniform set of necessary and sufficient conditions or features for testing whether something is or is not a game or chair, but that these terms have family resemblances in which no single feature or condition need apply to all items which belong in the set (Wittgenstein, 1953, pp. 66-67). In summary, cognitive theory suggests that writers often categorize things and events by using a general outline organized around typical instances or prototypes and that within a category a number of events may have family resemblances but not exactly the same features. These categories, organized around protoypes, may be used as cognitive frames or schemes to structure relationships among stimuli (Palmer, 1975) and as sociolinguistic or interactional frames ("This is the category play") to structure the meaning of a speech event (Bateson, 1972).

The next question, then, is what are the prototypes which organize the ctegories of the speech events underlying school writing? These protypical speech events must cluster distancing, processing, and modeling in forms which are typical in human experience and especially typical of students trying to learn to write in schools. Furthermore, these forms must draw basic distinctions. The nature of these forms is part of the taxonomic project undertaken by Richards, Halliday, Benveniste, Hamburger, Olson, and Chafe, among others. In modern studies of language taxonomies, I.A. Richard's identification of two primary language functions has probably been the most influential formulation:

> A statement can be used for the sake of the reference, true or false, which it causes. This is the scientific use of language. But it may also be used for the sake of the effects in emotion and attitude produced by the reference it occasions. this is the emotive use of language (Richards, 1924, p. 267).

These two functions are similar to the logical and social functions identified by Halliday (1970) and Olson (1980) and also somewhat similar to the proposed categories of textual form found in Benveniste and Hamburger. Benveniste (1966) proposes two fundamental forms of text, discourse, which signals a speaker-addressee relation in first- and second-person pronouns, and histoire, which does not signal rhetorical relationships in first- and second-person pronouns. Hamburger (1973) also uses person as a basis for distinguishing between two fundamental forms of text, the third person novel, which is truly fictional, and the first person novel, which is not truly fictional and is

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grouped with the lyric poem.

The contrast between the logical and the social categories of texts is also evident in the distinction that Olson (1977) makes between utterance and text. Utterance refers typically to the language found in oral conversations, and text refers to the essayist technique introduced to writing by Locke. Between the sixteenth and seventeenth century even science was written in a conversational style, with "a complete absence of logical order" and the focus "more a question of personal exchange than of taking an objective position" (Ellul, 1964, p. 41). But John Locke (1961) introduced a different language of explicit, logically connected prose in An Essay Concerning Human Understanding.

This distinction between the conversational and the logical is not a contrast of the oral and the written. Chafe (1981) has observed that the differences between typical oral language in conversations and typical written language in texts are very similar to the differences between colloquial oral language and ritual oral language in Seneca, an Iroquois language spoken in Western New York State. The distinction that Chafe makes between the colloquial and the ritual is very important for understanding the problems of students writing in schools. The speaker-audience relationship in ritual, as Bloch (1974) has indicated, differs from that found in oral language. In ritual, the speaker (or writer) is presenting the words of elders, not just personal views, is acting as an objective presenter or spokesperson, not as a subjective individual. This shift from the subjective to the objective and from the social to the logical is a critical problem for students learning to write in school and represents a shift in the speech event underlying their written language.

- Conversations, Presentations, and Expositions -

Three prototypes or speech event categories will be used in this study, consistent with the distinctions suggested by Richards, Halliday, Benveniste, Hamburger, Olson, and Chafe:

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Conversations	*Presentations*	*Expositions*
emotive (Richards)	scientific (Richards)	
social (Halliday)	logical (Halliday & Olson)	
discourse (Benveniste)	history (Benveniste)	
lyric (Hamburger)	third-person (Hamburger)	
utterance (Olson)		text (Olson)
colloquial (Chafe)		ritual (Chafe)

Both *conversations* and *presentations* are typical instances of language use and provide a well-documented contrast of *distancing*, *processing*, and *modeling* features. Furthermore, the appropriate use of these two instances of speech events appears to be a critical higher order skill in learning to write in schools. The National Assessment of Education Progress, after studying the quality of essays written in the assessments of 1969 and 1974, reported:

> Poor writers are getting poorer, then, in those skills that are specific to written communications but seldom are called for in conversation; that are acquired largely through broad reading and considerable rewriting; that re seldom taught and, when taught, are most difficult to teach, especially to poor writers and people who have little use for printed communication. (*Writing Mechanics*, 1969-1974).

In other words, one problem for poor writers is learning to make the transition or shift from *conversational* structures to *presentational* structures. This is not the same problem as making the transition or shift from oral to written language. A letter may use *conversational* structures, but it is still writing, not speaking. The oral-to-written problem was the focus of the first hypothesis: some students fail to reach a minimum level of writing competency because these students have not automatized the basic coding skills required in writing. But once the basic coding problems seem largely solved, there still remains the problem of the appropriate use of speech event structures. This problem is the focus of the second hypothesis: some students fail to reach a minimum level of writing competency because these students do not make the transition or shift from the structures of *conversational* speech events to the structures of *presentational* speech events.

The third hypothesis guiding this study is that the difference between the very best papers and the papers just above minimum competency is a difference in linguistic form, both at the sentence and text level. The students who write the top papers, although maintaining many of the qualities of *presentational* speech events, have added a focus on linguistic form and created a different kind of underlying speech event, *exposition*. The argument here is that *expositions*, like *conversations* and *presentations*, are a distinctive register, but, unlike *conversations* and *presentations*, *expositions* emphasize ritual form.

In linguistic theory, there is still some controversy about whether descriptions of higher order language skills should adopt Chomsky's view that the meaning of a sentence is in the sentence's syntactic form or Chafe's view that the meaning is often in large part in the implied or stated relationships between speaker and listener. Olson has suggested that "The differences between oral language and written text may help explain the current controversy between the syntactic approach represented by Chomsky and the semantic approach represented by Chafe" (Olson, 1977:271). Olson suggests that Chafe's approach is appropriate for describing "ordinary conversational language" and that Chomsky's approach is a "model for the structure of autonomous written prose" (Olson, 1977:272).

Olson's approach runs counter to the approach taken by Chaim Perelman. While for Olson the relationship between a speaker and a listener disappears in expository essays, for Perelman the audience simply gets bigger in formal essays. Perelman distinguishes between the audience of a single interlocutor and the "universal audience" (Perelman, 1952:20-22). For Perelman the one person audience typical in oral speech and written letters and the universal audience typical of philosophical and scientific discourse are both imaginary structures in the mind of the writer. This is the view adopted by a number of students of written composition (Gibson, 1950, pp. 265-269; Booth, 1961, p. 138; Ong, 1975; Chatman, 1975; Hirsch, 1977; and Ecco, 1979).

The hypothesis of this study is that in *expository* speech events, like any other exposition or highly conventionalized exhibit, the writer keeps the audience at a far distance, like the relationship in *presentations*, and at the same time draws attention to the ritual structure of the medium or text as verbal construct. The writer is communicating not only some projection of reality and a distant relationship with the audience but also an exhibit of the ordered patterns in the text. The *expositoin* speech event, then, is much closer to what Olson calls autonomous written prose than are *presentations* because ritual give the appearance of having an existence which is autonomous and separate from the audience. Yet the ritual is a display for an audience, and the producer of the ritual knows that ritual has a rhetorical relationship with and an impact on an audience. Says Wayne Booth, making the same distinction in a different context, the work communicates "itself" (Booth, 1977:85). The writer of exposition is still structuring particular rhetorical roles for the audience, the narrator, and even the writer.

A fourth kind of speech event is suggested by two patterns of *encoding* structures--a few markers ("You") of interactions wicth a partner, suggesting a primitive form of conversation, and frequent *encoding* problems as the writer learns the language. These patterns are similar to the *babbling* or pre-conversation speech event in oral langauge. In summary, there are four speech events with different roles and with different forms in oral and written language.

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LABELING	CONVERSATION	PRESENTATION	EXPOSITION/RITUAL
Oral Vocalization with peekaboo	Monologue or dialogue with other	Lectures	Oath of Office Graduation Ceromony
Written doodles, drawing, scribbles, notes, first message	Letter or informal essay	Feature article in newspaper or magazine	Scholarly article in journal A contract
Writer Role Partner with other in a language game or situation player with written forms	Interviewer-stenographer or collector of diaries and letters (Chatman, 1975)	Editor of lectures into written form	Discoverer of ritual forms. Producer (like movie producer of ritual events
Orator Role "I" in first stages of language	"I" in social situation A sociable person	"He" in formal or semi-formal situation/A knowledgeable person about a subject	"He" and "It" as an oracle who presents the forms of things in a ceremonial situation. A seer who sees the essence of things in forms & patterns.
Audience Partner in language play	Friend of narrator	Student of subject	Scholar of forms/Museum goer

The last question to be investigated by this present study is whether the change from learning coding skills to using conversational and presentational structures shows developmental trends. In other words, if coding dominates in the writing of one group of students, as suggested by the first hypothesis, and if conversational structures dominate in another group, as suggested by the second hypothesis, then do the three groups of students-- coding, conversational, and presentational-- represent developmental trends in learning to write in schools. Because an expository analysis cannot use a simple frequency count, this structure will not be analyzed in the developmental data.

One issue in developmental trends is whether there seems to be a continuing growth of skills even as new skills are being added. Applebee has suggested that the child "relies on a skill which the child has already developed (dialogue) to develop a new skill (narrative)" (1981:8). The child might not try a new structure or learn one, in fact, without help of an old structure:

> The process is a very general one in language learning; it provides a scaffold (Bruner, 1978) or support that allows the child to engage in a task that would otherwise be too difficult while learning a general procedure which makes the support unnecessary (Applebee, 1981:8).

The question in writing is whether conversational structures act as scaffolds in the development of presentational and expository structures. In other words, do conversational structures continue or do they suddenly disappear?

A second issue in developmental trends is whether the various combinations of writing skills show declines, plateaus or sharp increases. A number of developmental studies of writing have reported some plateaus and sharp increases in scores. For instance, Loban (1976) reports that the plateaus in written language "tend to occur at grades 8, 9, 10, and 11, a full yer after the comparable oral loss of velocity" (p. 80). Loban is reporting what generally happens in the three groups studied--low, middle, and high. But the typical or random group, as Loban observes, "often moves ahead by spurts and regressions" (p. 80). Loban was comparing growth in oral and written expression. This present study will examine developmental trends at three levels of writing competency in grades seven through twelve.

In summary, the following four hypotheses will be investigated in this study:

The Information Processing Hypothesis (the Cognitive Problem): Students at the lowest levels of writing competency in secondary schools organize their information processing time around encoding structures such as making the letters, spelling the words, and capitalizing where necessary. Students at the middle and upper levels of writing competency in secondary schools organize their information processing time around structures encompassing such larger units of text as speech events. Encoding structures serve some of the same purposes for the writer as babbling does for a speaker.

The Speech Event Hypothesis (the Sociolinguistic Problem): Students at the middle levels of writing competency organize their written texts around the structure of a speech event which is typical in everyday oral language (*conversational*). Students at the upper levels of writing competency organize their written texts around the structure of a speech event which is typical in school textbooks (*presentational*).

The Exposition Hypothesis (the Linguistic Problem): The students at the highest level of school competency in writing put an emphasis on the internal structure of texts and sentences.

The Developmental Hypothesis: Students in different grade levels in secondary schools show distinct shifts in their writing scores, and in their use of particular structures--beginning with *coding* structures, moving to *conversational* structures from everyday oral language, and finally shifting to *presentational* structures from school textbooks.

To investigate these hypostheses, this study will draw upon a number of techniques used in previous research. When Braddock, Lloyd-Jones, and Schoer (1963) published their review of research in written composition almost twenty years ago, four of the five studies they selected for review were experimental or quasi-experimental studies of the instructional materials and techniques which could improve the students' skills in composition. These studies assumed that the primary goal of composition research was to determine the effectiveness of specific instructional techniques. But Cooper and Odell (1978), fifteen years later, challenged this assumption: "The fallacy of such an assumption becomes apparent almost any time we test the precepts that have informed most of the teaching of composition in this century" (p. xi). They suggested that "a period of vigorous research on written discourse and the composing process" must precede experiments with instructional interventions (p. xi).

The first requirement for a descriptive study of writing, such as is proposed here, is a specification of the writing context in which the competency scale is to be anchored. Each of the previous research approaches reviewed in this chapter--linguistic, cognitive, and sociolinguistic--has assumed some model of writing competency and some method of measuring that competency. In linguistic investigations, competency is the written form attained by professional writers or by older students in school, such as the longer T unit (Hunt, 1965), the communication unit (Loban, 1976), the cumulative sentence (Christensen, 1967), or a pattern of coordination and subordination in paragraphs (Christensen, 1967; Nold and Davis, 1980).

This view of writing competency assumes that the adequacy of a sentence or paragraph is determined by whether the syntactic structure of the sentence or the organizational pattern of the paragraph has one of several ideal forms, not by whether the form helps the writer solve cognitive problems of memory or solve rhetorical problems of writer-reader relationships. For instance, in some lniguistic approaches the final arbiter of what an ideal syntactic structure can be is an assumed and intuitively recognizable ideal speech community:

> Linguistic theory is concerned primarily with an ideal speaker-listener in a completely homogeneous speech community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance (Chomsky, 1965, p. 3).

In many linguistic studies of writing, the ideal writer is assumed to get better as s/he gets older, thereby attaining, for instance, what Mellon called mature syntactic fluency (1969:19). For Mellon, the growth of syntactic fluency "can only result from increased use of sentence embedding transformations" (1969:18), and thus, the assumption that competency equals sentence form becomes in Mellon's study the equation that "competency equals frequency of sentence embedding transformations."

Studies of the composing process shift the focus from linguistic form to cognative strategies. In these studies, competency is assumed to be a cognitive strategy used to solve a problem of memory retrieval or overloaded processing capacities. However in many studies of the composing process, the final arbiter of whether or not a cognitive processing problem exists or what the problem might be is somebody's judgement of whether a piece of writing is good or bad. The written product becomes the indicator of cognitive dissonance. For instance, Gordon Rohman, used a schooltest to determine whether students allowed a prewriting stage wrote better than students not allowed to prewrite:

> The evidence of our testing programs clearly shows that writing produced under these circumstances is, first, good in itself. Our essays showed a statistically significant superiority to essays produced in control sections (Rohman, 1965: 112).

In another instance, Flower, arguing for a stage of prewriting in the writing process, what she calls Writer-Based Prose, finds the ultimate measure of competency to be what she called Reader-Based Prose, and the effectiveness of this Reader-Based Prose is measured by an ideal instructor's response to two pieces of writing:

> To gauge the Reader-Based effectiveness of this report, skim quickly over Draft 1 and imagine the response of the instructor of the course, who needed to answer these questions....Next, try the same test on Draft 2 (Flower, 1979, 34).

Draft 2, as it turns out, is more competent (and therefore Reader-Based) because the imagined instructor gets the answers to the questions more easily from Draft 2 than from Draft 1. In Flower and Hayes, competency, therefore, is measured by an ideal reader; in Rohman, a schooltest measured competency. These two studies show that cognitive and linguistic approaches have employed some external source as the measure of competency.

The studies of Emig (1971) and Perl (1978) are two other examples of how competency is defined in processing studies. Emig is describing, among other things, what processes students use in their school writing assignments, and she reports that "Able student writers voluntarily do little or no formal written prefiguring" (1971:92). In Emig's study (1971: 29) the measure of what is able or competent is teacher judgments of the eight subjects. In Perl's study, the writing competency of the students is measured by placement essays and the fact that the students were programmed into a basic skills program. Perl says that the students' placement essays exhibited the "writing deficiencies" associated with unskilled writers, and as evidence of the association, Perl points to Bossone and Weiner's (1975) review of the teachers' report on remedial teaching at the City University of New York (Perl, 1978:45).

In summary, studies of writing have typically turned to somebody's judgment as a basis for determining competency, and the level of competency has then been used to argue that a writing problem does or does not exist. The judgment of competency has come from testing programs (Rohman, 1965; Perl, 1978), imagined instructors (Flower, 1979), reports of teachers (Emig, 1971; Perl, 1978), and the holistic scoring of papers by college graduate students (Bridwell, 1980). Most of these studies usually appeal to the rhetorical situation as the final arbiter of levels of competency. In other words, a well-formed sentence is one which the listener or reader understands: "As a starting point of our discussion here, we can recall that language permits the transfer of information from the mind of the speaker to the mind of the hearer" (Chafe, 1970: 210).

Rhetorical studies, searching for some definition of the writing context, have turned to sociolinguistics for help. Britton (1975), for example, borrowed the notion of "communicative competence" from sociolinguist Dell Hymes, who argued for the importance of understanding speech events:

> We have then to account for the fact a normal child acquires knowledge of sentences, not only as grammatical, but also as appropriate....He or she acquires competence as to when to speak...with whom, where, when, in what manner. In short a child becomes able to accomplish a repertoire of speech acts, to take part in speech events, and to evaluate their accomplishment by others (Hymes, 1979:45).

For Britton, Hymes' "communicative competence" becomes "a writer's capacity to adjust to his audience" and because the writer is not face-to-face with the audience, the capacity to adjust is dependent on the degree to which the writer "can internalize the audience" (Britton, 1975:62). Britton's study began as an effort to describe, among other things, how students develop in their writing competence or, in other words, their ability to write to different audiences. What Britton found was that school writing appeared to emphasize one audience, the teacher, and not to encourage writing to different audiences. However, Britton did not consider how the teachers evaluated the writing and whether the writing represented the standards school authorities desired. The writing samples may have been only the inappropriate efforts of the students. Britton, therefore, unanswered the question of what good writing is or is not. He simply says audience variety should occur in school writing. In each area of research thus far examined, the researcher claims to be describing good writers, remedial writers, writers who are trying to do what is expected, or high scoring writers, but the basis for the claim is not fully elaborated. Furthermore, because there is no way of knowing whether the remedial writers or the good writers are like or unlike remedial writers or good writers found in other classes, schools, or districts, the studies may be using competency models which are not representative.

The levels of competency in any study of writing, therefore, should be anchored in a specific social or institutional task which can be judged valid and representative by some means or other and which can have a reliable scoring system. In the present study, all the ways of describing the writing task--as a cognitive problem, a sociolinguistic problem, a linguistic problem, or a developmental pattern--are anchored in an assigned institutional task or--in the case of the video-tape data--a comparable task. If the task changes, then all dimensions of the description could change. The features of the assigned task and its validity and reliability are the subject of the next chapter.

CHAPTER II: The Assigned Task: Its Features, Reliability and Validity

One reason for the apparent absence of a representative competency model in many studies of written composition is the lack, until recently, of a reliable and valid method of writing assessment. The most reliable methods have lacked validity, and every increase in validity has decreased reliability. For instance, traditional tests of mechanics and vocabulary can produce good reliability, but they do not appear to be measuring writing skills (Harris, 1962). Almost everyone agrees that valid measures of writing must sample writing performance. Furthermore, almost everyone agrees that methods now exist for a reliable scoring of writing samples.

Although research on the scoring of writing samples has produced a reliable method of holistic assessment (Diederich, 1974; Cooper, 1977) and a set of practical procedures which districts can use (Myers, 1980), the entire assessment process is still very costly. However, since 1974 every state in the country has adopted or is seriously considering some form of minimum competency testing in writing (Cooper, 1981). As a result districts throughout the country have shown an increasing willingness to invest funds in the holistic scoring of writing samples.

But scoring papers alone, although a reliable measure, is not a competency model. There is also the necessity for validation procedures to decide whether the writing task is a reflection of the school's primary goals in writing and what point on the scoring scale constitutes minimum competency, decisions which must involve school boards, parents, and the professional staff (Myers, 1981). This process of validating both the writing task and the definition of minimum competency in schools is also quite costly. Again, however, the mandates for minimum competency testing throughout the country have produced the necessary funds for validation. In summary, the research on writing assessment and the passage of minimum competency laws in California and elsewhere have made it possible, maybe for the first time, to study writing competency in a context representative of district-wide standards.

The present study will be based on an examination of differences among writing samples which the district has scored by district standards. This chapter will examine the features of the assigned writing task, the methods used to ensure the reliability of the competency scores, and the steps taken to establish the validity of the task, the ranking of the anchors, and the selection of the minimum competency score.

A. Features of the Assigned Writing Task

The present study is based on four assigned writing tasks given in 1977, 1978, 1980, and 1981. The 1977 and 1978 tasks were read and scored in one reading in May 1978. The 1980 and 1981 tasks were read and scored in two separate readings. The five topics for the three readings were as follows:

A. Pre: Written in November 1977

> Write about an object you are especially attached to, something which had deep personal meaning for you, something which has become a part of your life.

B. Post: Written in April or May 1978

> Write about a person you like, dislike, or admire, someone you have strong feelings about. Perhaps you will want to describe the person in detail and explain how you came to know--or know about--him or her. You may want to consider why you feel as you do towards the person and how your attitude has developed or changed.

> NOTE: In both the pre and post samples, elementary teachers substituted "tell a story about" for the word "write." The 1977-1978 readings collected samples from grades 4 through 8.

1980:Reading in March

A. Writing Sample A (Essay): Written in February

Your school counselor has asked you to think about a person who has had the most influence on your life. Describe this influence, giving examples of how it may have changed you.

B. Writing Sample B (Letter): Written in February

Employment agencies can be very helpful in finding a job if they know what job you want and are qualified for. Write a letter to the employment agency shown below and explain what job you would like what your qualifications are. Explain the reasons you think you should be hired and examples of your strengths, including references, if any.

THE ABC EMPLOYMENT AGENCY
204 EAST BROADWAY
OAKLAND, CALIFORNIA 94606

1981:Reading in March

A. Writing Sample A (Essay)

Your class has the funds and time to go on an educational field trip. Write an essay explaining where you think the class should go and why.

B. Writing Sample (Letter)

Same as 1980.

Secondary students were given a class period (fifty minutes) to read the topic and write on it, and elementary students, who were tested only in the 1978 reading, were given as much time as they needed. Elementary teachers in 1977-1978 reported that no student took a full fifty minutes. Less than one percent of all the students submitted blank sheets or failed to submit a paper. The teachers generally reported that the writing samples of the students appeared to have the same qualities as writing samples in which the students were given all the class time they needed to do writing assignments.

The students were told that the writing sample would be scored by a teacher-reader and the score would be used to determine whether or not the students had attained minimum competency in school writing. All writing samples were to be returned to schools, and parents and students could make appointments with counselors to see the writing samples and the scores. The writing task in 1980 and 1981 had been preceded by substantial publicity about necessity for students to attain minimum competency in school writing in order to graduate from high school. In general, then, the purpose of the task was clear, the writing time seemed adequate, and the topics did not seem to present any problems of special knowledge.

B. The Reliability of the Scores

The competency scores used in this study are based on holistic assessments of student writing in the spring of 1978, 1980, and 1981. Holistic assessment of student writing, a procedure for ranking papers, has been much studied and refined over the past ten years, particularly in the work of the Education Testing Service (ETS), which scores College Board essays, and the National Assessment of Educational Progress, which samples student writing throughout the country. Charles Cooper has commented on the reliability issue:

> Where there is commitment and time to do the work required to achieve reliability of judgement, holistic evaluation of writing remains the most valid and direct means of rank-ordering students by writing ability. Spending no more than two minutes on each paper, raters, guided by some of the holistic scoring guides I will describe here, can achieve a scoring reliability as high as .90 for individual writers (Cooper, 1977:3).

In the readings for this study, a 1 to 6 scale was used. One to 4 is used in many readings, but 1 to 6 provides a wider range of competency markers. The top score on the scale must always be an even number to avoid the inclination of some readers to compromise and place papers in the middle. A 1 to 6 scale requires a two-step decision process by the readers: (1) Is the paper upper or lower half, and (2) is the paper at the bottom, middle or top of the upper or lower half? The points on the 1 to 6 scale are marked by example or prototype papers, not a list of features or traits.

The reason for this prototype approach is twofold. First, Rosch's work (Rosch, 1977; Rosch and Mervis, 1976) has shown that people first use prototypes to hold a category together, not features. Feature analysis comes later. The second reason for this approach is that experienced teachers in a given district have often taught with each other for several years and have had numerous discussions on what features in writing should receive the highest priority in teaching. As a result, a discussion of features sometimes leads to the adoption of traditional roles in a long standing dispute. The paper is ignored. Asking readers to simply score papers first, without any discussion, quickly establishes the presence in the group of a strong consensus. Discussion can then follow.

The first assessment in 1978 (May) was organized as part of the evaluation of a Title IV-C writing project in the Mapleton Public Schools. Fourteen of the twenty-one teachers used in the scoring of papers had received training in holistic assessment during a 1977 summer program of the Bay Area Writing Project. Of the other seven teachers, three had participated prior to 1978 in at least one holistic assessment of writing. The head reader for the reading was well trained, and the overall organizer of the project had served as head reader for previous readings in Mapleton and in the Mount Diablo Unified School District and had served as a reader for the College Board exams (1971) of the Educational Testing Service and for assessments in school districts.

The assessments of 1980 and 1981 were funded by the Mapleton Public Schools as part of the minimum competency program required by state law. For each reading, three-fourths of the 35 educators who participated in the five-day assessment had participated in at least one previous reading. The topics selected for each reading were topics which had been tested in pilot studies. The essay topic in each reading had, in fact, been earlier used in writing assessments in either the Mount Diablo Unified School District or the Tamalpais Unified High School District or both.

Each reading was preceded by one to two days in which potential anchor papers were selected. Each of the experienced anchor-readers was asked to find a sample representative of each score on a six point scale, 1 being the bottom paper and 6 being the top. The samples from each anchor-reader were then copied, and each anchor-reader was asked to score each paper on the 1 to 6 scale. Those papers which were given the same score by all the anchor-readers were then selected as potential anchor paper or prototypes for a given score category. The anchor-readers discussed these papers, often as many as thirty such papers in each score category, to determine whether there was agreement on how a given score category might be described. Trait analysis, in other words, followed prototype selection. The descriptive traits were almost always global--developed, coherent, unclear, awkward--and never put in writing for distribution. Traits were, however, reiterated when discussion was requested by a reader.

After discussing papers, the anchor-readers then were given a range of unscored papers and asked to score them using the anchor papers as the definition of a score category. The papers in this practice session were scored three times, and all papers with any difference in the three scores were then discussed. These papers revealed that special anchors were needed to define boundary cases. In other words, for the *bird* category a person needs a *penguin* to define the boundary cases. These boundary cases are of various types: (1) papers in the three and four category, the only area that presents some problems of deciding boundary cases; (2) papers which are long but are still in a very low score category such as a 1 or 2; (3) papers which are short but which are still in high score categories such as a 5 or 6; (4) paper illustrating bilingual problems in lower half scores; and (4) papers in which the handwriting presented some problems of reading but in which the quality was high (4, 5, or 6). These additional anchors were then found, copies were made, scoring was practiced again, and the process continued until the anchor-readers felt they had a set of anchors which clearly defined what a score category was.

On the first day of the official reading, the regular readers, not the anchor-readers, were given copies of a set of potential anchor papers and asked to score the papers on a 1 to 6 scale without any discussion. Then the readers were asked to show by raising their hands how they scored particular papers. In all three readings there was at lest 80 percent agreement on categories 1, 2, 5 and 6 for all anchor papers except one, and only moderate agreement on categories 3 and 4 on any of the anchor papers. The issue that had to be decided in the 3/4 split was whether fluency or focus were to have the highest priority. In Mapleton, every year (1978, 1979, 1980, 1981) the teachers have decided that long but unfocused papers are 3's and focused but possibly short papers, are 4's. Once this decision was made, the readers used the appropriate prototypes to score the middle categories with 77 percent of the teachers in 1981 (28 out of 37) in agreement on scores for anchor papers in the score categories 3 and 4. In subsequent reanchoring during the reading the agreement was .86 and higher.

After practicing scoring anchor papers and finding the anchor papers which represented the strongest consensus, the teachers discussed the qualities which distinguished one category from another. The discussion refined the understanding of the categories that had been established in the selection of the prototypes. In other words, the group's tacit agreements were made explicit. These discussions were informal and not committed to a check list. The reading then began. Each paper was scored twice, the first score placed on the back of the paper and the second score on the front (see Appendix for examples of papers). Each table of readers had a table leader who circulated papers so that papers after having been read at one table were then handed to another table. Circulation routes were assigned by the head reader. Furthermore, each table leader read sample papers to determine that the individual readers at the table were scoring appropriately. If an individual reader had a problem in a category, then that reader was given anchors for practice and the head reader was informed.

After the second reading, the table leaders checked to make certain that the two scores on a paper did not differ by more than one. If the two scores differed by more than one, then the paper was read a third time by a different reader, usually the table leader, who decided the second score. In all of the readings, from 1978 to 1981, less than 5 percent of the papers were read a third time. Of the thirty or more readers, at least six were table leaders, and these six table leaders re-read about 10 percent of the papers for a third time as part of the checking process and checked all of the scores of all papers for discrepancies of more than one in scoring. If an individual reader was consistently off the scale, that reader was assigned to other work. One or two techers in each reading were given such assignments. In the final scale, the two scores from the two readings were added together, providing a 2 to 12 performance scale.

Another test of the overall reliability of the scores is the distribution of papers on odd and even scores. If the readers are generally in agreement in their scoring, then even numbers should have a higher proportion of the scores. In the readings of 1979 and 1980, scores were distributed as follows on essays:

Score	1979	1980
2	499	103
3	425	151
4	1,772	783
5	912	461
6	1,436	845
7	1,146	437
8	687	467
9	342	164
10	240	125
11	36	55
12	132	17

1979	Number	Percent	1980	Number	Percent
Even	7627	64	Even	3608	67
Odd	2861	36	Odd	1268	33
Total	7627	100		3819	100

Although the 1979 reading did not provide samples for this study, more than half of the readers in 1979 were also readers in 1978, 1980, and 1981. Also, notice the relationships between the 3 and the 4 in both readings. In 1979, 7 has almost as many papers as 6 and more than 8, and in 1980, 7 has almost as many papers as the 8. The middle scores continue to exhibit slippage.

Validity Procedures

Steps were taken to establish the validity of the assigned task, the ranking of the anchors, and the selection of the minimum competency score. The validity of the assigned task was established by having the writing task approved by committees of parents (1979) and teachers (1978, 1979, 1980, 1981) and by piloting the topics with students and teachers. In the piloting procedure, students and teachers wrote on the topics, and teachers reported the problems which developed. The piloting of topics took place in other school districts and in inservice programs of the Bay Area Writing Project, University of California, Berkeley. Each group approached the validity issue in a somewhat different way. Parents asked, "Do these writing tasks adequately represent the writing goals which the public wants the schools to attain?" Teachers asked the same question. Teachers and students together asked. "Do these writing tasks provide an adequate opportunity to demonstrate writing skills?" In general, all parties approved the topics used.

Next, the validity of the rankings was established by having two groups of fourteen techers and one group of twenty-two principals rank six unscored anchors. The two groups of teachers were in complete agreement on score categories 12, 2, 5, and 6, and, like the anchor readers and the regular readers, split on categories 3 and 4. 71 percent agreed with the scoring of the original readers. The principals were in complete agreement on categories 1 and 2, and majority agreement on categories 3, 4, 5, and 6.

In a third meeting to check how well the general teacher population might agree on rankings, another group of fourteen district teachers was asked to rank the six anchor papers. This group, unlike the first group of teachers, was not selected to represent departments, and, therefore, was expected to be more generally representative of the teacher population. In addition, unmarked anchors were ranked by a second group of 106 teachers who were selected from seven cities across the country: Phoenix (15), Los Angeles (18), New York City (21), Denver (26), Chicago (15), and Memphis (11). These teachers were selected by coordinators who were paid to distribute the anchors and a set of questionnaires to the teachers and then to collect the data and return it. The two groups of teachers, local and national, had the following characteristics:

Table 1

AGE (Yrs)	NAT'L (No.)	LOCAL (No.)	EXP. (Yrs.)	NAT'L (No.)	LOCAL (No.)
0-25	1	0	1-5	9	2
26-35	40	4	6-10	27	2
36-45	32	5	11-15	22	5
46-55	22	4	16-20	29	3
55+	11	1	20+	19	2
TOTAL	106	14		106	14

GRADE	NAT'L (No.)	LOCAL (No.)	CLASSES TAUGHT	NAT'L (No.)	LOCAL (No.)
8	2	0	General	74	7
9	24	2	Functional	2	1
10	23	2	Composition	21	2
11	21	1	Remedial	7	2
12	15	4	Other	2	2
11-12	8	2			
9-12	5	0			
Other (7-12)	8	3			
TOTAL	106	14		106	14

Without being told anything about how the anchors had been used or scored, the 106 teachers in the national sample completed scoring all six anchors papers, the same anchors used in the district reading in 1980 and used in the earlier meetings with district teachers, principals, and parents. 97 of the 106 teachers (91.5 percent) agreed with the district readers on the scoring of the bottom paper, 96 (90.6 percent) agreed with the scoring of the anchor paper for category 2, 74 teachers (69.8 percent) agreed on the scoring of the top paper, and 49 teachers (46.2 percent) agreed on the scoring of anchor 5, the next to the top category. 26.4 percent of the teachers wanted to place the 5 paper in the top category. 46 teachers (42.5 percent) agreed on the scoring for anchor 3, and 34 (32.1 percent) agreed on the scoring of anchor 4. However, the scoring was, as usual only off target by one score category, 48 (45.3 percent) giving anchor 3 a score of 4 and 47 teachers (44.3 percent) giving anchor 4 a score of 3. All fourteen of the local teachers agreed with the district readers on the scoring of anchors 1, 2, 5, and 6. three of the fourteen teachers reversing the scoring for anchors 3 and 4. (See Appendix C for chart of distribution.)

In summary then, the overwhelming majority of local and national teachers agreed with the readers' ranking of anchor papers for score categories 1, 2, and 6, and the largest percentage of teachers put anchor 5 in the 5 category. The split votes came on anchors 3 and 4, which initially got split votes from the readers themselves. The national teachers were also asked to estimate how many of their students wrote papers better than the top paper and worse than the bottom paper. The teachers estimated that on the average about 26 percent of the students (X = 26.531) wrote papers better than the top and only about 4 percent (X =

4.583) wrote papers worse than the bottom. Because the anchors were from ninth graders and the teachers taught all grades from 7 to 12, one would expect many of the students to write better than the top paper in the ninth grade sample. The scores, then seem not only reliable but also representative of how teachers generally rank the students in their classrooms.

The second problem in validation is the decision about what score represents the district's minimum goal for competency. The minimum competency question was answered by asking the secondary teachers who represented their schools to take the anchors back to the schools, have the English teachers in a department meeting arrange the anchors in order, correct any sequence in the order if necessary, and then ask the teachers to select which paper best represented minimum passing, translating the results into a score on a scale of 2 to 12, one in which the original score of 1 to 6 was doubled. In other words, a 3 would have meant that the teachers felt that minimum competency was a paper which fell somewhere between category 1 and 2 because a 3 on the 2 to 12 point scale meant that one reader gave the paper a 1 and another reader gave the paper a 2. The score selected for minimum competency was then phoned to the district research department. Seven (7) was the near unanimous choice for the minimum competency score.

The anchors, the writing tasks, and the selected minimum competency score were then taken to the district proficiency committee, a group of parents appointed by the local board of education. The proficiency committee reviewed the anchors, the writing tasks, and the minimum competency score and approved all three. The chair reported these decisions to the local board which accepted the report. The local board had given the committee the charge of recommending tasks and/or tests which would represent the public's goals for public education and for reviewing and approving minimum competency decisions. The chair of the committee reported to the local board at regular intervals. In summary, steps were taken to ensure the reliability of the scores and the validity of both the task and the decision about what score represents minimum competency. These steps are of fundamental importance because the study will be based on the following claims about scores on the writing samples:

1. School writing competency is reflected in (=) performance on selected writing tasks;

2. Group differences in scores reflect (=) group differences in writing competency;

3. The selected writing tasks reflect (=) the school goals for writing;

4. The minimum competency score reflects (=) minimum attainment of the writing goals of schools.

The data from the three readings (1978, 1980, and 1981) are the foundation of the present study. The size of the population each year, the method of sampling, and score distributions in the population and the sample--all of these issues are the subject of the next chapter.

CHAPTER III: Procedures

Each of the three hypotheses guiding the present study required a different set of data. (1) The information processing hypothesis required ninth grade data from the 1980 and 1981 proficiency readings in the school district and data from the video-taping of five case study students at different score levels on the district proficiency exam (described in detail below); (2) the speech event hypothesis required ninth grade data from the 1980 and 1981 proficiency exams; (3) the expository hypothesis required sample anchor papers from the top score category (6); and (4) the developmental hypothesis required data from the 1978 reading, including scores from the begining and end of the 1977-1978 school year and from grades 4 through 12. The method of deriving and validating the scores was described in the previous chapter. The subject of this chapter is the method of collecting, coding, and analyzing the various sets of data.

Sampling from the Readings of 1978, 1980, and 1981:

In 1980, from a population of 3,819 essays and letters from ninth graders, a sample of 176 was drawn, essays on one side of the papaer and letters on the other side. In 1981, from a population of 4,221 letters and essays, a sample of 170 essays and 167 letters was drawn. In 1980, the samples of essays and letters were from the same students, and in 1981 the samples of essays and letters were from different students. The distribution of the 1980 and 1981 populations and samples is shown in Appendix D. Because the readings were conducted for the purpose of returning information to the individual school sites, including papers and scores, the sampling procedures were conducted during the course of the reading and varied to fit the practical circumstances.

In the sampling for 1980, each table leader was asked at the end of the scoring to count through the papers at his/her table and pull out every tenth paper, eliminating every paper with a total score of 7, the minimum passing score. These papers, approximately 300 of them, were then copied on both sides, one side having the student's favorite person essay and the other having a letter. From the 300 papers, every other paper was pulled for a sample. Eighteen of these 150 papers were too light to read. Then every third paper of the remaining 150 was pulled, making a total of 50. One of these was blank, five were too light, and the remaining 44, all dark enough to read, were added to the other 132, making a total sample of 176 essays written by ninth grade students in Mapleton on a favorite person. On the reverse side of these 176 essays were 172 letters by the same students. Four did not write letters. The 1980 letter topic was an appeal for employment.

The sample of 176 essays had 43.10 percent (74 papers) which were below the minimum competency score, and the general population of 3,819 papers had 64.10 percent below minimum competency, showing that the sample for 1980 had higher quality papers than those found in the population. The population, of course, included scores of 7, not present in the sample. Because the focus of the present study will be results at various score levels, not the results of the overall sample, the difference will not distort the findings.

A second sample of papers was selected for study from the 1981 reading. For logistical reasons, the sampling had to take place at that point in the reading when every paper had been read once. As a result, the scores on these papers are on a 1-6 scale. The sampling technique was different in 1981. Each writing sample has a student ID number. Using the random number table and reading single digit numbers in a left to right direction and then moving down to the next arbitrary line, the investigator went from table to table getting ten papers with the appropriate beginning digit until a total sample of 190 papers of the essay had been drawn. The same procedure was used to draw a sample of 190 letters. Both sets of samples were copied. The essay topic for 1981 was a favorite place for a field trip, and the letter topic was the same as in 1980.

The 190 essays had 18 papers which were too light to read and two papers which had not been scored, leaving a total sample of 170. The 190 letters which had been drawn had 26 papers which were too light to read and 11 which were unscored, leaving a total of 147. Twenty of the papers which were too light to read were studied to determine whether these papers were of a certain score level or type. The scores were about equally distributed, 12 of the 20 papers appearing to be below minimum competency, approximately the same distribution as the 1981 sample, and the types seemed typical of the overall sample.

The overall passing scores increased to 40 percent in the 1981 population, leaving 60 percent below competency for both letters and essays. The samples show a similar distribution, 53.9 percent of the essays below competency and 59 percent of the letters below competency. Unlike the 1980 sample, the 1981 sample has some students who were not ninth graders, 27 among the letters and 5 among the essays, all of them in grades 10 through 12.

The papers in the 1978 reading were collected two times, first a November collection (1977) of 2,690 papers from the beginning of the school year, all on a single topic, and second a May collection (1978) of 2,271 papers from the end of the school year, all on another topic. The first topic focused on a favorite object and the second one focused on a favorite person. These papers did not have to be returned to the schools until the spring of 1979, and, therefore, random sampling techniques were used to draw a sample of 200 papers. Because these papers had been hand coded for identification by teachers and/or students, 18 papers were not properly coded for grade level or pre/post designation. Because time was not limited, as in the 1980 and 1981 readings, all papers were copied, none being discarded for being too light. The entire population of the papers, both pre and post, were read at a single reading in May 1978 and followed the procedures outlined in Chapter II with one exception. No schools or parent committees reviewed the anchors and selected a paper as representative of the minimum competency point. The distributions in the population and the samples from the 1978 reading are shown in Appendix D.

Coding of Samples from 1978, 1980, and 1981

The samples from 1978, 1980, and 1981 were coded for four sets of features--encoding features, conversational features, presentational features, and total words. The encoding features were misspelling, letter problems, immediate shift from cursive to printing, and non-rhetorical fragments. Misspellings include the typical misspelling of words (Wing and Baddeley, 1980) as well as the garbles (McDonell and Osburn, 1980) which occur in early writing development. Graves (1979) has identified three kinds of garbles: (1) first inventions such as "botafll prnssas" for "beautiful princess," (2) words in transition such as "wuz" for "was," and (3) stable inventions such as "neis" for "nice." In the reliability check, coders had some difficulty distinguishing between some garbles and typical spelling problems ("recieve" for "receive"). Therefore garbles and typical misspellings were grouped together. The reliability for coding spelling problems was .913 in the test group of ten coders.

Letter problems included the copying of letters or whole words over the original word so that there was a double image; capitalizing incorrectly ("I saw The man") but not the capitalization of whole words, usually a signal of strong feeling, not a sign of a coding problem ("I saw THE man"); and using small letters for letters which should be capitalized (he lives in berkeley") but not small letter i's which signal humility in some student papers ("i saw the movie"). The reliability for coding letter problems was .822 in the test group.

The immediate shift from cursive to printing, except in cases of the capitalization of whole words, a feature which was not counted, proved to be rather rare. Students tended either to print the whole essay or to write in cursive. The shift was counted only in words of four letters or more and only when at least two of the letters but not more than half the word was in the different script. The rater reliability was .896 with the test group. The actual number of shifts constituted less than 5 percent of the coding problems in a sample of 25 papers randomly selected from the 1980 and 1981 samples.

The coding of non-rhetorical fragments had a reliability of.772 among the test coders. The difficult problem was distinguishing the rhetorical from the non-rhetorical fragment, and the most difficult form to code was the adverbial clause without any attached independent clause. A separate count of 154 samples showed that the adverbial clause problem occurred in only 12 papers, ten of which had one such problem and two of which had two such problems. In the same sample, 136 papers had no other type of fragment problem, 15 had one problem, one had two, one had three, and one had four.

In general, then, the coding for these types of errors was reliable at the .77 level or better. The ten coders were given 20 papers and 90 minutes to score the coding problems of the papers. The papers selected were those with substantial coding problems of various types. The coding categories were described to the coders and when the coders asked for clarification, clarification was given, although no specific problems in a paper were discussed. The reliability coefficient shows how well the coders as a group agreed with the investigator's coding, which was calculated from the same set of papers over a period of several weeks.

In addition to the encoding index, the writing samples for 1978, 1980, and 1981 were coded for the frequency of various words and phrases signaling some dimension of two types of speech event:

Conversations

Close Distancing:

you, I am writing about, my, mine, our, your, I am trying to remember, This essay is about, I think, I believe, I suggest, I hope I tell (you).

Approximate Processing:

and, plus, so, then, next, or, yet, but, sort of, kind of, just about, about (five), in a way, mainly, mostly, pretty (much), almost, like to (ran home), maybe, probably, sooner or later, sometimes, practically (crazy), anyway (he could), a lot, sure (good), right after (the show), always, all over, -est on adjective (greatest), especially, very, plenty, a real (winner), of course, all the time, usually, even (Fred did it), only (one), like wow, and really (good).

Transitory Modeling:

The End (as conclusion), exclamatory marks, parenthetical expressions, capitalizing whole words, such slang expressions as gonna, walkin' (dropping g), should of, whatcha doin', how's about it, and ain't, such cliches as it's rainin' cats and dogs, and such conclusions as Gotta go, See ya, That's all, and that's it.

Presentations

Far Distancing:

Any opening sentence stating topic without using I, me, my, mine, our, your, and you in the subject position and various uses of The person who, one, a person who, and everybody as subjects of sentences.

Normative and Embedded Processing (Definitive)

Any use of embedders such as either/or, while, until, if, even though, as soon as, who, whom, that, where, therefore, however, first-second-third, also, in addition, in summary, not only/but also, in a sense, perhaps, seems to be true, could be fact that, in a manner of speaking, for the most part, with the exception of, in general, in essence, indeed, without doubt, the point is that, the evidence shows, as a general rule, there are reasons why, generally, appositives (Bill, my friend, is here), -ing modifiers (not as verbs), and -ed modifiers (not as verbs).

Permanent Modeling:

Title at the top (not counted in the letters), number of paragraphs, and a generality as a concluding sentence (The good die young).

During the counting of words and phrases, each coder had a list of all the items to be counted (see Appendix E for other words and phrases not listed above). On the items above, the test coders had a reliability of .91 on the test papers. Two other items were counted in the 1980 and 1981 samples: (1) the occurrence of a (as in a man) or an and (2) the reference of a noun, not a pronoun, in the subject or object position of a main clause of a sentence to topics or a body of knowledge beyond family, friends, acquaintances, school, and immediate experiences of the presumed speaker. Therefore, family, friends, neighbors, school acquaintances, and TV personalities were not counted. But President Carter, other government figures, movie characters (not a regular TV series), book characters, and international figures in the newspapers or on TV were counted. These two features were added to Far Distancing under Presentations. The first feature had high coder reliability, .90 or higher. However, the second feature had a reliability of only .68, and when this feature was added to the total list of features, the total reliability for the ten test coders dropped from .91 to .82.

The features a and an were not counted in the 1978 sample because some of the writers in grades four through eight seemed not to have mastered the distinction between a and an as signals of new information and the as a signal of old information. The reference to topics outside the writer's experience was also dropped as a feature because the issue of the writer's experience became very problematic for the very young writers, grades four through six. With these two features dropped, the coding for the 1978 sample had a reliability of .83. The drop in reliability for 1978 papers may have been due to the fact that the 1978 test papers, like the sample itself, had handwriting by younger writers, and this handwriting sometimes appeared to be more difficult to read than the usual sample from secondary students.

Four pilot studies were conducted to determine which words and features were being reliably coded and were distinguishing between various score levels and modes of writing. Markers which were abandoned for reasons of either reliability or significance were questions, time statements (_yesterday_, _during the past year_), a one-to-four scaling of subject distance, the general present (He _runs_), and the immediate present (He _is running_). The four pilot studies contrasted the written and oral versions of the same speeches, writing samples at different score levels, journals, textbooks and social notes in a tenth grade class, journals and essays, and the story styles of five pre-schoolers. The results of one pilot study are shown in the Appendix. From these four pilot studies and other research studies (Loban, 1976; Kroll, 1977; Chafe, in press) came many of the words and features which were counted.

In summary, the present study, as an approach to higher order skills in writing, will investigate the presence of _conversational_ and _presentational_ speech events in school writing at various levels of competency. But first two criticisms of style typologies in general must be considered:

> A typology is a classification and a typology of styles is an arrangement of styles into categories such as periods of time (Elizabethan, Restoration, Victorian, or modern), Ciceronian, or of impression, such as ornate, formal learned, simple, plain, and casual. Such classifications are based on the belief that groups of writers have styles that are alike and that any single member of such a group is typical of it. I am convinced that this belief, which has a certain antiquity in literary history, is false and unnecessary. It cannot contribute anything to our understanding of literary style. (Millic, 1967, p. 66).

Millic's two criticisms of style typologies--that members of a category must have exactly the same features of the category and that any single member must by typical of the category--assumes a classical logician's approach to defining words and establishing typologies. For the classical logician, a word has meaning if it is used in a sentence, and one can specify the necessary and/or sufficient conditions (or tests) which will establish that the sentence is true or false. One does not have to be able to carry out the test, only state it. For instance, the sentence "Baron Munchausen pulled himself out of the water by lifting himself by the hair" has meaning only if we can identify the specific features which the world must have for the sentence to be true (Allwood, 1977, p. 4).

Another approach to defining words and establishing typologies, used by ordinary language philosophers, is to search for family resemblances instead of the definitive list of features. Wittgenstein, for instance, argues that words like game or chair do not have a uniform set of necessary and sufficient conditions or features for testing whether something is or is not a game or chair. These terms, says Wittgenstein, have family resemblances in which no single trait or condition need apply to all items which belong in the set (Wittgenstein, 1953, pp. 66-67). Thus Millic's insistence on a single set of features applying to all members of a typology is not a necessary condition for establishing typologies.

Furthermore, Millic's insistence that "any single member of such a group is typical of it" is inconsistent with what recent psychological research says about how human beings make typologies. Eleanor Rosch (1977), as noted earlier, proposes that the fundamental conceptualization of the world is in terms of discrete _prototypes_. These _prototypes_ are the basic members of a category, and not all members of the category are equally representative. Rosch had people compose sentences with the word _bird_ in them; then she replaced the word _bird_ with names like _eagle_, _penguin_, _chicken_ and _robin_; and finally she asked people to rate how sensible the resulting sentences were. People rated sentences with _chicken_ and _penguin_ as odd and sentences with _robin_ as sensible. _Robin_ is the prototype, the more typical instance of the category _bird_.

The evidence that typologies are held together by prototypes which capture the central tendencies of the typology comes from a variety of sources. As noted earlier, Bruner _et al_, in a study of thinking, discussed the importance of a "typical instance" for subjects attempting to set a color wheel to a given color (1956, p. 64). In another study, Berlin and Kay (1969) have shown that in color naming, one must distinguish between focal and non-focal colors. On the color

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continuum, focal colors are those points which speakers of diverse languages agree represent the best examples of "basic color categories."

Contrary to Millic's views, a typology can have a fuzzy boundary and still cohere around a prototype or typical instance of the category. Two essential points have been made. The first essential point is that the criterial features, whatever they are, must be present to some degree but after a certain point relative frequency is not that important in categorization. A feather or two may classify an object as a bird. An increase in the number of salient features may not be that important for all practical purposes. The saliency of some important features appears not to be based on frequency of occurrence (Bates and MacWhinney, in press; MacWhinney, 1980; Tversky, 1977).

The same is true in speech events. A "you" in one or two places can establish the existence of a conversational speech event without having to keep repeating the marker of direct address throughout. Because total feature concentration is more important than number of features relative to the number of total words, words and linguistic units marking speech events are totaled and not divided by the number of words. The following distribution shows how differences in the marking of speech events are lost when markers are divided by total words:

Score Level	Conversational Features		Presentational Features	
	Divided by Total Words	Not Divided by Total Words	Divided by Total Words	Not Divided by Total Words
2-3	.1695	7.9863	.106	4.7397
5-6	.1590	17.2109	.090	9.6190
8-9	.1549	25.2553	.085	13.3521
11-12	.1196	23.7373	.116	23.0000

The second essential point is that categories of speech events are organized around typical instances. The typical instances proposed for this study are *conversations* and *presentations*. Similar contrasts have been proposed by others, as noted in Chapter One (Beneviste, 1966; Richards, 1924; Olson, 1980; Hamburger, 1973; Halliday, 1970; and Chafe, 1981).

Analysis of the Writing Sample Data

These characteristics of *encoding* problems--misspellings, letters copied over, immediate shifts from cursive to printing, and non-rhetorical fragments--were divided by the total number of words, resulting in the *encoding* index. Total number of *encoding* problems were divided by number of words because the nuimber of words is a measure of how many opportunities the subject had to make an *encoding* errors. Total number of letters would have been an even better measure. Total number of *encoding* problems alone could be misleading because two *encoding* problems out of a total of 200 words should be weighted less than two *encoding* problems out of 25 words.

The score categories were arranged in four sets: (1) scores 2-3, (2) scores 5-6, (3) scores 8-9, and (4) scores 11-12. The scores in 1980 and 1978, as noted earlier, result from readings by two readers who score the paper on a one (bottom) to six (top) scale. If the two scores differ by more than one, then the paper is read a third time to resolve the discrepancy. The two scores are then combined, producing the two to twelve scale which is the basis of this study. Because any number on the one to six scale can be combined with the number just above or just below it, a score of three could be considered the same as a four or a two, a four the same as a five or three, and so forth. Therefore, the numbers between score categories were dropped so as to reduce, as much as possible, any overlapping tendencies among score categories. 1981 papers had one reading which was doubled.

Because the 1981 letters and essays were written by different students and the 1980 letters and essays were written by the same students, and because letters and essays constitute very different modes, the data was analyzed in three sets: (1) letters, (2) essays, and (3) combined letters and essays. An analysis of variance was used to determine whether the occurrence of features of speech events or encoding problems varied significantly from one score group to another and to determine whether the between groups variation was greater than the within groups variation. Next the Scheffe procedure was used to determine significant differences, if any, between a given pair of score groups in the occurrence of *encoding* problems and speech event features. Because between group differences were always much greater than within group variations, within group variations are not reported. Scheffe results are reported when two groups are significantly different at the p .05 level or beyond. All results are correlational relationships, not causal, although these correlational relationships will sometimes be used to suggest the possibility of a causal hypothesis, which, of course, would have to be tested with different procedures.

Sampling the Writing Process for Video-Tapes

Video-taping was used to sample the pauses of high school writers during the writing process. The studio hook-ups and studio time for taping six students writing two essays--two of the students at low levels of competency, two in the middle, and two at high levels--became available during the summer of 1980 and the six subjects were selected from a population of 200 high school students attending a summer school. Five participated.

The students were then given all the time they needed to write on the following topic: Describe a favorite place, telling why it is your favorite. This topic closely matches the essay topics in the 1981 reading. The second topic was based on interviews conducted while the students were driven to the video tape sessions. The beliefs and interests of the students were used to design an argument topic. The topics given were:

> Explain why Proposition 9 should not have been passed, giving your reasons for your agreement with the electorate. (Fred C.)
>
> Explain why student rebellion is probably justified. (Jane Y.)
>
> Explain why women should not be drafted. (Bill F.)
>
> Explain why *Dennie* is a better book than *Voices* (Shirley E.)
>
> Explain why Leonard is a better fighter than Duran (George J.).

The subject was given 45 minutes for the second topic, and at the end of that time was interviewed for reactions about the writing episode. All the students finished well before the end of the writing period. Each student was asked to explain how he/she began, whether or not any planning took place, what sections gave the most trouble, and how the student knew when he/she was completed. Fred is the only writer of the five who scratched notes before writing. He did this only on the argument, and what he wrote was "Ethos" and "Pathos." He said he was reminding himself of some of the rules of argument taught him by his teachers. Except for this one instance in Fred's case, the retrospective interviews were not helpful in the analysis of the tapes. The students were also asked to describe their general performance in school, and the student estimates of their own writing was consistent with the estimates of the teachers.

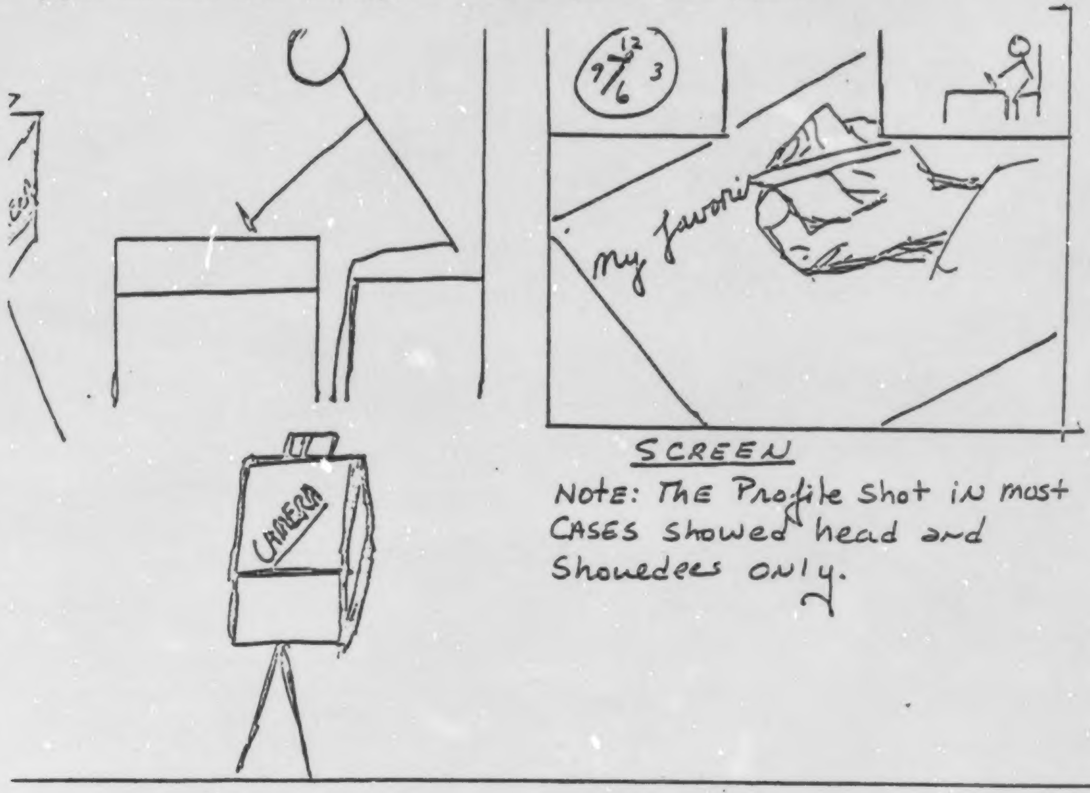
The six subjects were selected by asking teachers to recommend one good writer and one bad writer from a high school summer class given as part of an Mapleton school district program. From the twelve students nominated, six were selected for video-taping. These six students had taken the district proficiency exam in writing and these scores, as well as the other test scores, were available. One of the six did not appear for the video-taping, and the resulting sample of five had the following characteristics:

STUDENT	GRADE (Fall)	AGE	ESSAY SCORE	LETTER SCORE	MECHANICS SCORE	READING SCORE	SCALE
Fred C.	10	16	10	9	100	100	High
Jane Y.	11	17	10	11	100	100	High
Bill E.	11	17	6	7	77	73	Middle
George J.	11	17	2	2	38	20	Low
Shirley E.*	10	16	4*	3*	37	41	Low

* Subject's scores were missing. Subjects wrote samples in summer of 1980, and they were scored in the spring of 1981 at the district reading.

Video taping the actual writing on the paper at the moment of processing is important because in addition to contrasts of different levels of performance, a study of the writing process needs direct observation. Pianko (1979) had a record of how many times pauses occurred, based on video tapes that apparently did not show the writing, but Pianko had to rely on the subject's memory about the where and the why of the pause. Pianko's reports from subjects were indirect observations, retrospectives after the task was completed. Atwell (1981), like Pianko, divided pauses into long and short, but the exact location of the pauses was apparently not recorded. Atwell, also like Pianko, used indirect reports of the writing process.

The arrangement in the studio, the image on the screen, and examples of coding on the papers are shown below (see Appendix A for examples of coded papers):



Note: The Profile shot in most cases showed head and Shouedees only.

CODES USED ON STUDENT COMPOSITIONS WHEN PAUSES WERE ANALYZED:

$\overset{8}{\wedge}$ = 8 second pause at this point

④ ~~was~~ ② is
the time was now = Subject moves from now back to point between time and was, pauses for 4 seconds and scratches was, pauses for 2 seconds and writes is.

the^{RC} = Subject recopies the.

Ⓐ ③ ~~the~~ an → Ⓑ ④ the
the old car came down road near my house = Subject at house goes back to A and makes correction after 3 second pause, and then to B and after 4 second pause makes another correction (adding the). The corrections are described at the bottom of the typed copy of the essay.

NOTE: A stop watch was used while timing the pauses. This provided a double check on pause time, the clock on the screen and the watch in hand. Each student was analyzed twice.

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Another kind of indirect report is the Flower and Hayes (1979) "talking-aloud" approach. In this approach, the subject attempts to say aloud his/her thoughts at the very moment of writing. This approach cannot be used with some subjects because the "talking aloud" interferes with the actual process of writing. However, Flower and Hayes (1979) report that with training, some subjects become excellent "talking aloud" informants. In any case, the indirect observation, whether retrospective (Pianko, 1979; Emig, 1971) or "talking aloud" (Flower and Hayes, 1979; Perl 1979). still leaves problematic how writers might be automatizing or chunking during the writing process. Self report procedures are better suited for studies of the overall stages of the writing process and the resources and approaches to planning.

But the focus of this present study is the absence of automaticity and chunking at the moment of writing and good sources of data on this issue are the writing samples showing encoding problems and the pauses showing the writing flow. The writing samples are a useful combination with the pause data because while the pause data gives the description of individuals, the writing samples give a group picture of what the coding problems might be. Bridwell (1980), for example, showed that poor writers tend to revise at the surface and lexical levels, surface referring to spelling and mechanical problems and lexical referring to changing words. Because Bridwell's papers were scored by graduate students, without any reference to district standards, and because the writing task had not been validated by teachers and others as a task representing school goals in writing, the question of good and poor in the context of school performance is left somewhat in doubt. In summary, this present study will focus on writing samples for evidence of group trends in problems and focus on pauses in five case studies for evidence of different processing strategies during the writing episode.

Coding Pauses on the Video-Tapes

After the taping sessions were completed, the coding of the behaviors on the tape began. The first step was two one-hour practice sessions to establish a tentative code and another two-hour session to check the accuracy of the timing of the pauses. The first decision was not to count one second pauses. The reason for this is that these pauses consistently occurred in all the writing episodes and at all places in the text. Finding the same pattern, Matsuhashi (1979) made the same decision. All two-second pauses and longer were counted in seconds. A stop watch was added as a couble check for long pauses. If a subject paused, the investigator punched the stop watch, watched the clock in the upper right corner, and counted: "one thousand-one, one-thousand two..." With very little practice the count began to match both the watch and the clock. If the pauses were longer than six seconds or if several short pauses occurred close together, the investigator stopped the tape and reviewed the sequence, checking the timing. The times and codes were listed on a copy of the student's paper (see Appendix) and the student's paper and the coding were typed (see Appendix). The five tapes were coded twice.

For a reliability check, a summer assistant in the media lab was hired for five hours, one hour for practice and four hours for scoring the pauses in two writing episodes, one a narration and the other an argument. The two papers had a total of 167 pauses and instances of eight of the nine categories. The coding of the assistant was correlated with that of the investigator, coding differences of one second as the same score. The correlation of the two codings was .87.

Analysis of the Coding of the Video-Tapes

The data collected on each of the five students included: (1) the video tape of two writing episodes, (2) the writing samples from the two writing episodes, and (3) the audio tapes of the interviews. The audiotape data was not used. The coding of the video-tapes was done on the writing samples and then the samples were re-typed so that the location of the pauses, all moves forward and backward, and all revisions could be shown.

The pauses for each of the five subjects were sorted into eight categories representing linguistic units of different sizes and in the case of subordinators and corrections, activity units with different purposes: (1) pause in the middle of a word, (2) pause in the middle of a phrase (example: after in in prepositional phrase), (3) pause before a phrase (after subject, in front of predicate, after prepositional phrase, before verb phrase, before object or complement), (4) pause before or after coordinator (and, but, or), (5) pause just before subordinate clause markers (who, while) and before or after comma at the end of introductory subordinate clauses, (6) pause in front of sentences, (7) pause in front of paragraphs, and (8) pause before correction. No other types of pauses were found.

The data was then analyzed for the following information: (1) for each of the eight categories above, the total number of pauses, the total pause time, and the average time per pause in the category; (2) words per single pause; (3) words per net seconds after pause time subtracted; (4) percentage of total pause time for each of the eight categories; (5) rank ordering of percentage of pause time for each of eight categories, including average rankings for top, middle, and bottom groups; (6) pause time as percentage of total time, (7) average time per coordinator and subordinator, (8) comparison of total time devoted to pauses in argument and narration, (9) comparison of average pause time before coordinators and subordinators, (10) comparison of average pause time, for coordinators and subordinators in the narratives and the arguments, and (11) a frequency count of different types of revisions. including the frequency with which the writers skipped more than one word in a revision. The charts (Appendix) summarize some of the counts, percentages, and rankings.

The number of subjects (5) was, of course, too small for significance tests, but descriptive means (X) were calculated. Because the subjects did not distribute themselves into all of the score groups used in the analysis of papers, different score groups had to be used to examine descriptive trends. These groups were score categories 2-4, 6-7, and 9-11. A second grouping of pause data contrasted the frequency of pauses and the writing time in the two modes, argument and narration.

Sampling of Papers in the Top Score Category

Two anchor papers ranked at the top in the readings of 1980, 1981, and 1982 were used to sample characteristics of *expository* prose. the term *expository* prose is difficult to define because its broad meaning is informative writing and its more narrow meaning is the informative writing that "seeks to explain, analyze, and explore" (Kane and Peters, 1966:23). In this present study *expository* prose is the formal writing that occurs at the top level of competency in school writing requiring an explanation of something (why a place or person is a favorite and why someone should be hired for a job). The top level in this study is category twelve.

Analysis of the Expository Papers

the analysis of the expository papers focused on (1) sentence forms which were unusual, (2) the use of overall organizational conventions such as comparison and contrast, (3) patterns of subordination and coordination, and (4) the opening and closing.

Summary

The present study of various levels of competency in school writing used a variety of data, depending on the problems of competency at a given level. For instance, written products give some useful data for studying the problems of writers at the lowest levels of competency, but the video tapes add an essential dimension--an examination of the writing as it occurs in time. This dimension seems less useful as a description of what seems special about the top level of competency in school writing. The top level seems to require a close examination of a few papers. The distinctive qualities of these top papers are not as easily codified as are the features of *conversations* and *presentations* underlying the writing at various levels. In any case, the purpose of this present study is descriptive, and the picture that emerges at this point is not intended to be predictive.

CHAPTER IV: The Cognitive Task: Encoding in Writing

The present study assumes that the problems of writers at the lowest levels of competency are best understood as the problems of students who cannot handle the cognitive demands of a writing task. Three models of cognition have been proposed: (1) Bottom-Up, (2) Top-Down, and (3) Interactive. In the Bottom-Up model (LaBerge and Samuels, 1974) the learner directs attention to incoming data, activates a stimulus analysis which is either automatic and fast or attentional and slow, recodes the stimulus as input in another stage of a serial stage process, and then recodes the input from the second stage for yet another stage. For example, letters are recoded as words, words recoded as slots in a sentence, and so forth. In the Top-Down model (Smith, 1973) on the other hand, the learner directs attention to the incoming data, then directs attention to a conscious hypothesis about the data, and then verifies hypothesis by sampling data or changes the hypothesis. In this way, letters are synthesized into sentences by applying hypotheses ("This is a sentence about...)) to samples of the lower-level stimulus (the letters).

Stanovich (1980) argues that both Bottom-Up and Top-Down models are inconsistent with various research findings. Rumelhart (1977) and Danks (1977) have shown that higher level processes can affect lower levels, and Stanovich (1980) reports research suggesting that Top-Down processing is unlikely in the few milliseconds that is required for a fluent reader to recognize most words. The cognitive model guiding the research reported in this chapter is an interactive model.

First, two mechanisms of memory activation are at work, automaticity and attention, and both can occur simultaneously (Posner and Snyder, 1975). The mechanism of automaticity responds to letters by activating both low-level stimulus analysis (those letters make what words) and semantic analysis in related or associated memory locations (those words make what meaning). Automaticity is fast, does not use attention, and does not inhibit retrieval. Simultaneously, the mechanism of conscious attention, responding not to the letters and words of the moment but to the plot or meaning of the preceding context, activates the semantic analysis predicted by the plot or the expected meaning (the plot predicts what words with what meaning). Attention is slow, has limited capacity, and inhibits the retrieval of information from unexpected locations in semantic memory.

A compensatory principle is always at work (Stanovich, 1980). If the learner has a deficit in any knowledge source, the learner will rely on other knowledge sources, regardless of their level in the processing hierarchy. When automaticity produces usable results (words that make sense), rapid, context-free word recognition takes place. When word recognition is slow and unsuccessful, attention has time to intervene, inhibit retrieval of information from unexpected sources, and retrieve information from the expected memory location.

In an interactive model of cognition, poor writers would suffer from two conditions--the multiple levels condition and the longer route condition. The multiple levels condition is based on a multiple levels theory of memory which requires that attention be used for higher levels of planning. If automaticity is handling the level of translating sounds to letters and words, then attention can be expended on integrating sentences and paragraphs. But if attentional capacity must be expended on writing a particular word, then no attention is available for integrating large units of text. Thus, poor writers will not write many large units.

The longer route condition is based on a duplex theory which divides memory into a two stage route of Short Term Memory (STM) and Long Term Memory (LTM). This theory predicts that not all words on a list are remembered equally well. When subjects are given a forty word list and asked to immediately recall the words, they remember the words at the end very well, thus recalling them first and producing a curve upward. They then recall the words at the beginning well because those words entered an uncrowded short term memory, producing a curve which begins high and declines. And last they then recall the words in the middle, usually very poorly because these words were entering a crowded short term memory one after the other, producing a flat, low line (Murdock, 1962, see Appendix __). The duplex theory predicts that the curve upward at the end, called the recency effect, would disappear if there were a thirty second delay for recall during which the subject was asked to do something which prevented rehearsal of the words in STM. Such an experiment was done, using arithmetic as the interviewing task, and the recency effect did disappear (Postman and Phillips, 1965).

This last experiment creates conditions very similar to those in writing. That is, the beginning writer moves the sounds of the word from Long Term Memory to Short Term Memory, the string of phonemes are converted to a string of letters, producing the "sounding-out" of words (Luria, 1970), and then the letters are registered in linear fashion corresponding to the spatial order of letters in a written word. The letters are then retrieved one by one, and each letter is produced in turn by an appropriate sequence of hand movements (Wing and Baddeley, 1980). Because the hand movements-- holding the pencil, making the letters, and staying on the line-- can make retrieval very slow for the beginning writer, the result predicted would be the same as if the subject were doing arithmetic or some other task preventing rehearsal of the letters in STM. Items at the end should be forgotten. Two experiments have tested this hypothesis in writing and have found that for words of five or more letters, errors are more likely in the last two letters than in the first two (Chedru and Geschwind, 1972; Wing and Baddeley, 1980).

Poor writers, then, are those who have not automatized the processing routes where possible, and, as a result, the processing routes are longer and slower. The theory predicts, therefore, that the poor writers will allocate more time to small units like letters, words, and phrases than do competent writers. These two distinctive conditions for writing--multiple levels and longer routes--assume two different theories of memory, the duplex theory and levels theory. Klatsky, among others, suggests that instead of being distracted by the differences between the two models the best approach "may be to combine the levels theory with the duplex theory in order to develop theories of memory which incorporate the best points of each" (1980:26). Stanovich's interactive model provides such a combination and makes useful predictions about competency levels in writing.

The Encoding Problems in Writing Samples

All 342 samples of writing from 1980, 170 essays and 172 letters, and 315 samples from 1981, 169 essays and 146 letters, a total of 657, were scored for the occurrence of *coding* problems (misspelling, letters recopied, and non-rhetorical fragments). These scores were divided by number of words to produce an *encoding* index. Next the *encoding* index was correlated with scores, showing that *coding* problems had a negative correlation with scores in both years, going as high as -.72 in 1981 and -.61 in 1980, and accounting for 52 percent of the observed variance (R2) in 1981 and 37 percent of the observed variance (R2) in 1980.

The same patterns were reflected in a separate analysis of explained variance (R2) in letters and essays:

Topic	1980	1981	Combined
Letter	.32	.57	.49
Essay	.44	.48	.46

Next the scores from both 1980 and 1981 were grouped into four score categories--scores 2-3, 5-6, 8-9, and 11-12-- leaving a net of 213 samples in 1981 and 215 samples in 1980.

A one-way analysis of the variance of *encoding* means among the score categories of 1980 and 1981 essays shows the following:

Source/Essays	D.F	Sum of Sq.	Mean Sq	F Ratio	Prob.
Between Grps	3	.9541	.3180	100.988	.000
Within Grps	223	.7023	.0031		
TOTAL	226	1.6564	.0031		

The same analysis of 1980 and 1981 letters shows a similar result:

Source/Letters	D.F.	Sum of Sq	Mean Sq	F Ratio	Prob
Between Grps	3	.7647	.2549	101.332	.0000
Within Grps	197	.4955	.0025		
Total	200	1.2602			

A Scheffe procedure was used in both cases to determine where the significant variation was occurring:

Essays for 1980 and 1981

Groups	No.	Mean	S.D.	S.E.	95% Conf. Int. for Mean
I (2-3)	44	.2066	.1101	.0166	.1731 to .2401
II (5-6)	78	.0746	.0389	.0044	.0659 to .0834
III	65	.0410	.0296	.0037	.0336 to .0483
IV	40	.0192	.0143	.0023	.0146 to .0237
Total	227	.0808	.0856	.0057	.0696 to .0920

the groups that showed a significant difference at the p. 05 level or beyond were 1-4, 1-3, 1-2, and 2-3.

Letters for 1980 and 1981

Groups	No	Mean	S.D.	S.E.	95% Conf. Int. for Mean
I (2-3)	29	.2179	.1052	.0195	.1779 to .2579
II (5-6)	69	.0769	.0414	.0050	.0670 to .0869
III (8-9)	77	.0416	.0284	.0032	.0352 to .0481
IV (11-12)	26	.0171	.0179	.0035	.0099 to .0244
Total	201	.0760	.0794	.0056	.0650 to .0871

The groups that showed a significant difference at the p. 05 level or beyond were 1-4, 1-3, 1-2, 2-4, and 2-3.

The trends in the means are almost exactly the same in letters and essays, the only pair not showing a significant difference being groups 4 and 3. The greatest amount of encoding problems occur in the lowest score group, and the decline from group 1 to group 2 is the biggest drop between groups both absolutely and relatively. In fact, the mean for group 2 is very close to the mean for the entire sample of 201. The point is that the dramatic drop in encoding problems between group 1 and 2 suggests that students at the 5-6 score level have solved many of the cognitive processing problems found at the lowest levels of competency.

Another kind of problem, as noted earlier, is the difficulty some students have processing small units automatically, therefore reducing the attentional capacity available for large units. Large units require attentional capacity. Small units require attentional capacity only if automaticity does not function adequately. Six errors identified by teacher-readers of student papers can be divided into two categories, one for small units and the other for larger units. The small units are those requiring the writer to focus on a single location on the page--for example, the inflection for subject-verb agreement, pronoun case, and past tense. The large units are those requiring the writer to focus on two or more locations on the page--for example, the punctuation for items in a series, for introductory clauses, holding in memory the prior location of the subordinator; for independent clauses, holding in memory the subject-verb to come or the subject-verb just written; and apostrophes, collapsing two words into one, showing the ownership joining two words, and showing plurals. A comparison of these two kinds of errors at each score level shows that as the difficulties with small units decrease at the lower levels (group 2), the difficulties with large units increase:

Score Group	Inflection	Punctuation
ESSAYS		
I (2-3)	.0157	.0152
II (5-6)	.0101	.0218
III (8-9)	.0076	.0161
IV (11-12)	.0011	.0139
(n = 218)	‡1-4	‡0
LETTERS		
I (2-3)	.0233	.0153
II (5-6)	.0088	.0204
III (8-9)	.0025	.0109
IV (11-12)	.0005	.0080
(n = 210)	‡1-4, 1-3, 1-2	‡2-3, 2-4

‡ Pairs of groups which show significant difference of the p. .05 level and beyond.

Although the distinctions between the two groups are admittedly gross, the pattern of difference among the score groups is instructive. First, in both letters and essays, inflection problems reach their highest level at the lowest level of competency, and punctuation problems reach their highest levels in group 2. The decline of inflection from group 1 to group 2 is accompanied by an increase in punctuation problems. The pattern is what one would expect. That is, as small units become automatized and do not require attentional capacity, attentional capacity will be allocated to the construction of larger units. These larger units will at first be processed awkwardly, producing an increase in punctuation problems in larger units. In time, however, these punctuation problems will decline and eventually reach in the top papers a processing level similar to that found in the inflection problems of group 2.

Another indiction of processing capability is speed and sustained periods of processing. As small units like letters and words are automatized, the writing speed should increase, and this increase should be indicated by the total number of words written in a given, sustained period. In addition, as letters and words are automatized and larger units are, with practice, chunked, requiring little attention capacity, information overload can be controlled, thereby easing the strain of the cognitive task and making sustained processing easier. The problem for the students at the lowest levels of competency is that "mental effort" or attention has to apply to everything, resulting in an overload of too much to do:

> Unless its releasing component is activated directly by the immediate perceptual input, the activation or rehearsal of any scheme requires the application of "mental effort" (Kahneman, 1973). Since the amount of mental effort which can be applied at any one moment is limited, the number of schemes which can be activated in any one mental step is also limited (Case, 1974:547).

Total words, whether indicating speed within a given time period or indicating sustained effort within an allowed time period, can, therefore, suggest differences of processing capability at different competency levels. The distribution of total words per writing sample in each score category is as follows:

1980 Essays

Group	Count	Mean	S.D.	S.E.	95% Conf. Int.
1	6	47.667	21.02	8.58	25.6072 to 69.7261
2	42	118.2381	41.06	6.33	105.4408 to 131.0351
3	54	178.0555	48.49	6.59	164.8187 to 191.2923
4	14	221.2857	58.99	15.76	187.2217 to 255.3497
TOTAL	116	154.8707	53.06	5.85	143.276 to 166.4688

*1-2, 1-3, 1-4, 2-3, 2-4, 3-4

1981 Essays

Group	Count	Mean	S.D.	S.E.	95% Conf. Int.
1	38	40.3158	17.85	2.89	34.4483 to 46.1832
2	36	119.8333	38.06	6.34	106.9530 to 132.7137
3	11	149.1818	33.21	10.01	126.8685 to 171.4952
4	26	203.0385	35.96	7.05	188.5124 to 217.5645
TOTAL	111	115.0090	69.61	6.60	101.9149 to 128.1031

*1-2, 1-3, 1-4, 2-4, 3-4

1980 Letters

Group	Count	Mean	S.D.	S.E.	95% Conf. Int.
1	6	51.3333	10.68	4.36	40.1155 to 62.5511
2	33	92.8788	30.93	5.38	81.9104 to 103.8472
3	46	157.0000	32.80	4.83	147.2595 to 166.7405
4	14	188.2857	27.29	7.29	172.5345 to 204.0369
TOTAL	99	133.6465	50.67	5.09	123.5395 to 143.7534

*1-2, 1-3, 1-43, 2-4, 3-4

1981 Letters

Group	Count	Mean	S.D.	S.E.	95% Conf. Int.
1	23	64.0435	35.41	7.38	48.7289 to 79.3580
2	36	97.1944	22.71	3.78	89.5027 to 104.8862
3	31	122.0323	26.31	4.72	112.3737 to 131.6908
4	12	160.0000	28.57	8.24	141.8422 to 178.1578
TOTAL	102	104.6569	39.99	3.95	96.8020 to 112.5117

* 1-2, 1-3, 1-4, 2-3, 2-4, 3-4

* indicates pairs of groups which are significantly different at the p. 05 level or beyond.

The Scheffe procedure above was applied after an analysis of variance showed significance in all sets of data. On the average, students wrote longer papers in 1980, and this may have resulted from some variation in the test condition such as letting students write until the period bell rings instead of handing in papers before the bell. However, ech year the students wrote more words on essays than on letters. this does not necessarily indicate faster processing. The students may have spent less time writing the letters because the social expectations are that the letter form will be on the average shorter than the essay.

The consistent pattern in the data is a statistically significant increase in number of words from one score category to another in both letters and essays. The only exception to this pattern is the absence of significant difference between groups 2 and 3 in 1981 essays. The consistent increase in number of words per writing sample suggests that the students at the upper levels of competency have the ability to process written language faster or have the ability and the willingness to sustain processing for longer periods or both.

The picture that emerges from the written products is a large number of encoding problems at the lowest levels of writing performance (Group 1), a dramatic reduction in such problems at the next level (Group 2), then a small decline from Group 2 to 3. Group 3 was not significantly different from Group 4 in encoding problems in either letters or essays, but groups 3 and 4 were significantly different in total words. The encoding problem, then, is especially significant in the lowest levels of performance, and it explains almost half the variance (R2) in competency ratings for both the letters and essays from the two years (.49 and .46). The next question is whether the students with these encoding problems show an absence of automaticity and chunking in their moment-to-moment writing. This requires a look at the writing behavior of students during the writing process.

The Pause Study

The assumption is that pauses will occur where attention is directed and that there is a hierarchy or depth at various levels of processing. This last point is one argued by LaBerge and Samuels: "When one describes a skill at the macrolevel as being automatic, it follows that the subskills at the microlevel and their interpretations must also be automatic" (1974). Therefore, good writers, through automaticity and chunking, are expected to be at a point where attention is directed to larger units of language. Writers at the lowest levels of performance, however, are expected to be at a point where attention is directed to smaller units of language. The work of Matsuhashi (1979) and Chafe (1979) has shown that longer pauses can be expected to occur before breaks in larger units of discourse such as the paragraph. The question addressed by this present study is how do students at upper and lower levels of performance, as measured by a district standard, distribute their pauses during the process of writing. Another form of the question is how do _encoding_ problems, found to be a primary problem in the written products of students at the lowest levels of performance, reveal themselves during the course of the writing episode.

The pauses for the five subjects were sorted into eight categories: (1) pause in the middle of a word, (2) pause in the middle of a phrase, (3) pause before a phrase, (4) pause before or after a coordinator, (5) pause before subordinate clause, (6) pause in front of sentences, (7) pause in front of paragraphs, and (8) pause before a correction. These pauses were then analyzed by rank ordering and percentages, the result appearing on the next page.

Six of the eight categories were divided into two groups--one for small unit processing (pauses in the middle of a word, in the middle of a phrase, and before a phrase) and another for large unit processing (pause before subordinate clauses, pauses before sentences, and pauses before paragraphs). The mean (X) of each type of pause (time divided by total number of pauses) were added together and the result was the small unit and large unit pauses for each score category, per writing sample. Because each of the five subjects wrote two papers, there were ten writing samples, and because the five subjects did not represent all four score categories, the subjects were grouped into three categories--Group I- low (scores 2-4), group II-middle (scores 6-7), and group III-high (scores 9-11):

Small Units X Score Categories

Group	Count	Mean	S.D.	S.E.	Minimum	Maximum
I (Low 2-4)	4	13.7346	2.3162	1.1581	12.4524	17.2045
II (Middle 6-7)	2	13.1659	2.6591	1.8802	11.2857	15.0462
III (High 9-11)	4	10.3326	1.2647	.6323	8.9333	11.9333
Total	10	12.2601	2.4304	.7686	8.9333	17.2045

Large Units X Score Categories

Group	Count	Mean	S.D.	S.E.	Minimum	Maximum
I (Low 2-4)	4	16.2321	11.3987	5.6993	6.3333	32.2619
II (Middle 6-7)	2	41.8750	16.6759	11.7917	30.0833	53.6667
III (High 9-11)	4	35.1005	5.8047	2.9024	27.2778	40.1605
Total	10	28.9080	14.5348	4.5963	6.3333	53.6667

		PERCENTAGES								WORD/PAUSE RELATIONS		
		Mid-Word	Mid-Phrase	Corrections	Before Phrase	Before Coord.Cl.	Before Sub.Cl	Before S	Before Par.	Words Per Pause	Secs Per Words Wrtn.	X = S. Pause
FRED	NAR	0	3.80	31.7	17.9	7.5	5.8	19.0	12.0	4.03	3.83	6.43
	ARG	0	9.4	31.8	12.2	1.0	8.5	33,8	4.0	5.45	3.28	9.17
JANE	NAR	0	3.60	38.4	10.7	4.0	1.0	28.0	10,6	5.68	2.73	5.91
	ARG	0	.06	15.0	7.0	10.0	14.0	26.0	25.8	4.78	2.95	5.95
BILL	NAR	2.9	0	4.0	19.0	25.8	0	5.9	37.0	4.00	3.60	9.53
	ARG	4.6	13.90	18.0	14.8	3.39	.5	24.3	31.8	2.58	3.40	9.04
GEORGE	NAR	2.0	26.50	11.3	15.7	27.3	0	16.3	0	1.91	4.42	6.78
	ARG	12.0	26.8	30.2	17.2	4.0	0	9.5	0	2.63	4.13	4.09
SHIR-Y	NAR	9.47	8.79	22.67	21.48	8.12	4.06	25.38	0	1.41	2.81	5.46
	ARG	9.36	11.27	7.23	19.36	10.63	17.02	22.55	2.5	2.56	4.85	5.87

	RANK ORDER OF PAUSE USE -- PERCENTAGE					AVERAGE PAUSE TIME RANKED					
	M-W/P)	Before Phrase	Before Cl+S	Before Par	Correction	Mid-W	M-P	Phrase	Cl + S	Par	Cor.
FRED	5 (3.8)	3 (17.9)	1 (32.3)	4 (12.0)	2 (31.7)	6 (3.0)	5 (4.0)	4 (5.0)	2 (6.6)	1 (16.3)	3 (6
	4 (9.4)	3 (12.2)	1 (43.3)	5 (4.0)	2 (30.8)	6 (0)	4 (5.4)	5 (4.4)	3 (8.3)	2 (10.0)	1 (12
JANE	5 (3.6)	3 (10.7)	2 (33.0)	4 (10.6)	1 (38,4)	6 (2.0)	4 (4.5)	5 (4.2)	3 (7.1)	2 (9.0)	1 (22.
	5 (.06)	3 (7.0)	1 (50.0)	2 (25.8)	4 (5.0)	6 (2.0)	4 (4.0)	3 (4.0)	2 (5.1)	1 (25.0)	5 (3.
	4.75	3.0	1.2	3.75	2.25	6	4.2	4.2	2.5	1.5	2.5
BILL	5 (2.9)	3 (19.0)	2 (31.7)	1 (37.0)	4 (4.0)	5 (2.0)	5 (2.0)	4 (7.0)	3 (7.1)	1 (24.7)	2 (11.
	3 (16.5)	5 (12.8)	2 (26.1)	1 (29.8)	4 (14.0)	6 (3.5)	5 (4.8)	4 (6.7)	3 (7.7)	1 (36.0)	2 (13
	4	3	2.0	1.0	5	5.5	5.0	4.0	3.0	1.0	2.0
GEORGE	2 (28.5)	3 (15.7)	1 (43.6)	5 (0)	4 (11.3)	5 (3.3)	2 (8.0)	3 (5.0)	1 (8.3)	6 (0)	4 (4
	1 (38.8)	3 (17.2)	4 (13.5)	5 (0)	2 (30.2)	4 (3.6)	3 (3.7)	2 (5.0)	5 (3.4)	6 (0)	1 (5
SHIR-Y	4 (18.2)	3 (21.4)	1 (37.5)	5 (0)	2 (22.6)	4 (3.8)	5 (3.2)	3 (4.5)	1 (8.2)	6 (0)	2 (5
	2 (20.6)	3 (19.3)	1 (50.2)	5 (2.5)	4 (7.2)	5 (3.4)	6 (2.7)	3 (5.0)	2 (9.4)	1 (12.0)	4 (4
	2.2	3.0	1.7	5.0	3.0	4.5	4.0	2.7	2.25	3.2	2.7

V-C)

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The theory which framed the questions at the beginning of this chapter predicted that the writers at the lowest levels of competency would be allocating more processing time to smaller linguistic units. This is, in fact, what occurs.

The tables of small unit and large unit means show that the students at the lowest levels of competency, when compared to other writers, allocate more pause time to small units, allocate less pause time than others to big units, and have a larger range of pause time allocated to both small and large units. The top writers, when compared to the others, have less pause time allocted to small units, a middle amount of pause time allocated to large units, and a smaller range of pause time allocated to both small and large units. The mean pause times suggest that the middle competency writer is giving his or her primary attention, on the average, to large unit processing and still has some problems with small units. The low competency writer, on the other hand, is, on the average, giving comparable attention to both small and large units. Third, the high competency writer is giving primary attention to large units and minimal attention to small units.

This picture that emerges from the averages is modified somewhat by the picture which emerges from the percentages of total pause time allocated to large or small units:

Writers		% Small Units	% Big Units	Other (corrections)
Top-Fred	Nar	21.7	44.3	31.7
	Arg	21.6	47.3	30.8
Top-Jane	Nar	14.3	43.6	38.4
	Arg	7.06	75.8	15.0
Middle-Bill	Nar	21.9	68.7	4.0
	Arg	29.3	55.9	14.0
Low-George	Nar	44.2	43.6	11.3
	Arg	56.0	13.5	30.2
Low-Shirley	Nar	39.6	37.5	22.6
	Arg	39.9	52.7	7.2

The poor writers allocate about 40 percent or more of their pause time to processing small units, but the top writers allocte only about 20 percent or less. The top writers allocate about 75 percent of their pause to processing big units and revisions, but the poor writers allocate only about 60 percent or less to these processes. The middle writer has a very high percentage of time allocated to large units, but the allocation to revision is very small. The accent of top writers on revision is one reason tht the top writers have a smaller average pause time for larger units and sometime a smaller percentage of pause time for larger units. In the revision process top writers may be allocating attentional capacity to units even larger than those included in the large unit category of sentence, clause, and paragraph processing.

The number of words a writer skips backward in revision could be one indication of the size of the unit being processed in revision. The better writers skipped back in the text more than one word eight (Jane) to fifteen (Fred) times while making revisions, while the bottom writers did this only two (George) to three (Shirley) times. The top writers paragraphed in their writing, and the average length of the pause time before their paragraphs was ranked first or second among their various uses of pauses. The bottom writers paragraphed only once, and this paragraph break was small.

Another indication of the size of the unit being processed is thenumber of words per pause (divided total number of words by total number of pauses):

TOP WRITERS:	Fred:	4.66
	Jane:	5.15
MIDDLE WRITER:	Bill:	3.23
BOTTOM WRITERS:	George:	2.23
	Shirley:	1.90

This measure of processing shows that the top writers write in longer spurts, getting more down on paper before they have to pause and attend to a problem.

These processing patterns are still evident when individual items within the categories are studied. The top writers, Fred and Jane, allocate no time to Mid-Word pauses and very little time to Mid-Phrase pauses, and process four to five words for every pause used. In addition, the top writers appear to use longer words. The bottom writers, on the other hand, use Mid-Word pauses and substantial Mid-Phrase pauses, and process only about one to two and a half words for every pause used. Of the percentage of pause time allocated to various functions, the top writers allocated to Mid-Word and Mid-Phrase pauses only .06

percent to 9.4 percent of the total pause time. The bottom writers, on the other hand, allocated 20.6 percent to 38.8 percent of the total pause time to the small units at the middle of words and the middle of phrases. Furthermore, in revision the bottom writers recopied letters and the top writers did not.

Another interesting pattern in the data is the range of variation among writers at different competency levels. The point is that the range of processing time may be as important an indicator of how time is allocated as averages and percentages. The assumption is that as a writer becomes more practiced at processing small and large units, developing automaticity and using attention to chunk units, the range of the individual's processing time within a given unit should narrow. The subject's processing capabilities have, in such a case, a practiced central tendency. There are two indicators of the processing stability in the top writers. First, the standard deviations for the large and small units (shown on page 76). The total data set shows a standard deviation of 2.43 for small units, but top writers have a standard deviation of only 1.26. In large units, the total set has a standard deviation of 14.53, but the top writers have an S.D. of only 5.80. A second indicator is whether the subject's pause percentage fluctuates from letters to essays. Of the total time spent writing, what percentage is allocated to pause and does this percentage fluctuate from letters to arrgument?

NUMBER OF SECONDS USED TO WRITE EACH WORD (AVERAGE)
(NOT COUNTING PAUSE TIME)

Subject	Argument	Narrative
Top Writers		
Fred	3.28	3.83
Jane	2.95	2.73
Middle Writers		
Bill	3.40	3.60
Bottom Writers		
George	4.13	4.42
Shirley	4.85	2.61

In summary, the top students show smaller standard deviations in their allocation of pause time, and bottom writers show higher standard deviations. Furthermore, the top writers allocate about as much time to pauses in narration as they do in argument, showing a practiced stability in their writing flow. Bottom writers, however, show great variation from one writing event to another, showing that their writing flow has

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not yet stabilized.

In addition to the size of the unit processed and the stability of the flow, there is the issue of speed. The video-tape data showed the following distribution of seconds used to write a word (total seconds spent writing, pause time excluded, divided by number of words):

NUMBER OF SECONDS USED TO WRITE EACH WORD (AVERAGE)
(NOT COUNTING PAUSE TIME)

Subject	Argument	Narrative
Top Writers		
Fred	3.28	3.83
Jane	2.95	2.73
Middle Writers		
Bill	3.40	3.60
Bottom Writers		
George	4.13	4.42
Shirley	4.85	2.81

Shirley's rather fast rate in narration (2.81) is especially interesting because Shirley allocated 57.78 percent of her time to pauses while writing narration. One inference is that because Shirley stopped and planned her writing, she got an executive scheme to organize her writing at several levels of processing, thus, she was able to write faster when she did write. On the other hand, when Shirley reduced her pause time almost by half in argument, she found herself writing at the slowest rate of any of the writers.

The patterns of writing at the lowest levels of competency have interesting similarities to language patterns in oral language. In the development of young speakers, conversational structures are preceded by pre-conversations like peekaboo games. These pre-conversations include such speech forms as babbling and labeling, and these forms have some of the qualities whihc appear in the pause data and writing samples: frequent encoding problems, frequent processing of the language in short spurts, as shown in the frequent pauses around small units, and signs of interactions with a pre-conversational partner. These last features, the signs of interaction, become evident in the conversational ptterns described in the next chapter. the language patterns in the papers at the lowest levels of competency do, therefore, suggest a *pre-conversational* speech event underlying the text. This *pre-conversational* or *encoding* speech event is a critical period in the development of oral language skills. The *encoding* problems, like babbling, in oral language, are viewed as efforts to develop new structures, not as just errors and deficits to be lamented. A similar attitude is suggested here for written langauge.

The picture that emerges is one in which the writer at the lower levels of performance leads a much more erratic life during the composing process, averaging only a few words between pauses, allocating most pause time to small units, and having a larger range of pause time while moving from one writing episode to another. This picture is quite consistent with a theory which predicts coding problems, and the absence of chunking and automaticity among beginning writers. This picture is also quite consistent with the other behaviors that were noted during the writing episodes. The poor writers, at one time or another, sounded-out words, one of the poor writers sounding-out frequently. Second, the poor writers seemed to be physically straining themselves during the writing. This was suggested by a visible tensing of the muscles, by heavy breathing, and by an awkward twisting and turning around and over the paper on the desk, one student laying her head sideways on the desk and looking at her pencil in profile while she continued to write.

The middle student, Bill, is an example of someone who received a passing score on the letter with a minimum score (7) but did not receive a passing score on the essay (6). In the pause study, the middle student used 3.40 and 3.60 seconds for each word, higher than one top student in both samples and lower than another in narration. This pattern of overlapping with top students is evident in other pause figures. The next chapter will examine the special problems of students in the middle group with failing scores of 5-6.

CHAPTER V: The Sociolinguistic Task in Writing: From Conversations to Ritual From Conversations to Ritual

In the previous chapter, the students at the lowest levels of competency in writing were found to encounter frequent problems in the cognitive processing of small units. Nevertheless, students at the middle levels of writing competency, although showing substantially fewer problems in the cognitive processing of small units, sometimes still did not achieve a minimum level of competency in writing. The problem of the middle level writer appears to be difficulties with higher order skills. The question addressed in this chapter is what are those higher order skills?

Neither the shorter route nor the multiple levels conditions in theories of memory, both of which helped explain the antecedents of encoding problems, provide a useful understanding of what these higher order skills might be. Yet, if a theory of writing, with its own inherent lawfulness, can be constructed, then these higher order skills and their antecedents must be understood.

A promising framework is sociolinguistics. This line of inquiry has had two traditions, one emphasizing relationships between the writer and the audience and the other emphasizing relationships between the writer and the subject. The project for the first line of inquiry was outlined by Socrates:

> he who would be an orator has to learn the difference of the human souls--they are so many and of such a nature, and from them come the differences between man and man. Having proceeded thus far in his analysis he will next divide speeches into different classes:--'Such and such persons,' he will say, 'are affected by this or that kind of speech in this or that way,' and he will tell you why. The pupil must have a good theoretical notion of them first, and then he must have experience of them in actual life...." (Edman, pp. 318-319).

A recent example of this tradition is a study by Rubin and Piche (1979), who examined how changes in the intimacy or distance between writer and audience influenced student writing.

The second line of inquiry, emphasizing the relationship between the writer and the subject, is represented by Britton's investigation of the spectator, expressive, transactional continuum with its underlying contrast between the subjective and objective experience (Britton, 1973); Applebee's investigation of the continuum of elaborative choice, with its underlying contrast between the "definitive, fully articulated summation of an established system" and reformulations which stress the uncertainty of the established system (Applebee, 1978); and Moffett's I-It relationship, which Moffett joined with the speaker audience-relationship (I-you) to form the universe of discourse (Moffett, 1968). Moffett's writer-subject continuum, like Britton's, contrasted the subjective and the objective.

The third line of inquiry is suggested by Britton's description of poetic language as the use of language to make a "verbal Construct," "an object," or a "formal pattern" (Britton, et al, 1975). Transactional language, on the other hand, is used "to get things done" (Britton, et al, 1975:88). The focus in these distinctions is not on the writer-audience relationship or the writer-subject relationship but on the text as a medium. The underlying distinction in Britton's examples is between texts as permanent objects and texts as transitory events. A similar line of inquiry and a similar distinction appears in the investigations of Mary Louise Pratt (1977) and Walter Ong (1977).

These three dimensions of audience, subject, and text are the written forms of the three major characteristics which sociolinguists have identified in speech events: participants, ends, and setting (Hymes, 1972); participants, purpose, and setting (Brown and Fraser, 1979); interlocutors, topic, and setting (Fishman, 1972); and participants, subject matter, and channel (Halliday, 1978).

In the present study, the speech events underlying a text will have three dimensions: distancing, the way the relationship between the writer and the audience is defined, either close or far; processing, the way the reality of the subject is projected, as approximate or definite and as easy or hard; and modeling, the way the text is projected, either as transitory or permanent. Each of these dimensions of a speech event is signalled by a word or phrase which is either invariant or probabilitic (Brown and Fraser, 1979:37). You and our, for example, are invariant signals of close distancing. These three dimensions will be grouped into three speech events-- conversations, presentations, and expositions. The first two are the primary concern of the middle competency writer.

Distancing Rules

Conversations and presentations follow a different set of rules in distancing, processing, and modeling. Conversation establishes very close distancing among participants, an approximate reality in processing, and an impermanent text in modeling. The close distancing of conversation has been remarked upon by Harding: "The gossip implicitly invites us to agree that what he reports is interesting enough to deserve reporting and that the attitude he adopts, openly or tacitly, is an acceptable evaluation of events" (Harding, 1962, p. 137). Grice (1975) has described this close distancing as the cooperative principle of natural language.

Grice argues that under the rules the writer is required to follow four maxims: to be relevant (maxim of relations), to be truthful (maxim of quality), to be informative (maxim of quantity), and to be clear (maxim of manner). But the listener is required to invoke implicature (some implication) so that the rules will appear to be followed. Robin Lakoff (1979) finds Grice's maxims to be unworkable for conversations, but she agrees that listener implicature is essential. But what is implicated in conversations? R. Lakoff suggests three different sets of politeness rules. The position taken in this present study is that *conversations* invoke the *distancing* rules of equality or camaraderie: act as though you and the addressee were equal; make him feel good. Grice's cooperation principle is, therefore, typical of conversations, but Grice's maxims are typical of the *processing* rules writers follow in *presentations*, not *conversations*. In *conversational* texts, writers and readers are expected to follow the *processing* rule of approximation, both readers and writers invoking implicature frequently.

The cooperative principle is most often in effect when the relationship between writer and reader is personal, reflecting the reciprocity, spontaneity, and empathy found in dyadic conversation (R. Lakoff, 1981a). But, as Searle (1975:76-77) and others have argued, normal conversational rules are suspended in non- idiomatic cases. Pratt (1977) has called this suspension of the cooperative principle in non-idiomatic cases "putting oneself in verbal jeopardy." She says that "Boring lectures annoy us more than boring turns in conversations" and that when all semblance of turn-taking is abandoned, as is the case in formal *presentations*, the narrator engages in a game of "verbal jeapardy" (p. 215) and the reader assumes the audience's "right to judge" (p. 110). Ths situation in *presentations* wil be called the uncooperative principle and it usually appears in some form in most handbooks on writing. For instance, one handbook says that the writer assumes "that the burden of communication falls mainly upon him" and demands "as little of the reader as is consistent with his (the writer's) own intentions" (Brandt, Beloof, Nathan, and Selph, 1969).

Processing Rules

The contrast between the *distancing* features of conversations (the cooperative principle) and distancing features of presentations (uncooperative principle) is also evident in the *processing* features of both forms. *Processing* in *conversations*, as noted earlier, emphasizes approximations and a you-know-what-I-mean agreement between reader and writer that although the realities are not being clearly stated at the moment, the realities are, nevertheless, clear in some approximate way. *Conversation*, say Berger and Luckmann, "takes place against the background of a world that is silently taken for granted" (1967, 2). Clark and Clark (1977) have called this the reality principle, an assumption of *conversations* that co-occurs with Grice's cooperative principle:

> According to the reality principle, listeners interpret sentences in the belief that the speaker is referring to a situation or set of ideas they can make sense of. On this basis, listeners can build up an internal model of that situation piece by piece (Clark and Clark, 1977, p. 72).

In Clark and Clark's model, reality is easily knowable, but in non-idiomatic speech events, particularly third-person reports and explanations, the participants assume that reality is more difficult to know. These two different assumptions, that reality is either easy to know or hard to know, are marked by different words. For instance, a number of studies have suggested that *conversational* speech events have more simple coordinators (*and*, *but*) and sequencers (*then*, *so*) than do formal written *presentations*, which tend to have more embedders (*which*, *because*) and parallelisms (*not*/*but*, *either*/*or*) Davis, 1941; Harrell, 1957; Hunt, 1965; O'Donnell, 1967; Loban, 1976; Kroll, 1977; Chafe, in process). Schorer (1950) has noted that coordinating conjunctions like *ands* and *buts* "suggest that the several elements in a sentence have equal importance or unimportance." The suggestion that all elements are equal is another way of saying that the elements describe a reality which does not require complicated tools of analysis and which is rather easy to know. However, connections like *because*, *which*, *if*, *although*, and *how* elevate some elements and subordinate others, creating a hierarchy in the organization of reality. Such a reality is more difficult to know and to analyze.

In addition, various words signal the *processing* characteristics which project a reality as either approximate or definite. George Lakoff (1975) has shown how different hedges, for example, distinguish between approximations and definitions. *Loosely speaking* is used as a hedge for approximations, *strictly speaking for definitions*:

(a) Loosely speaking, a whale is a mammal.

(b) Strictly speaking, a whale is a mammal.

(c) Loosely speaking, a whale is a fish.

(d) Strictly speaking, a whale is a fish.

(d) is false (or not reasonable) says Lakoff, because calling a whale a fish is an approximation of reality, not a definition, and _strictly speaking_ refers to a "definitional and primary criteria" for category membership. (a) is false because saying that a whale is a mammal is a definition of reality, not an approximation, and _loosely speaking_ is an approximation in the sense that it refers to secondary, not primary, criteria (pp. 239-240).

Hedges which project approximations of reality sometimes distinguish between a generalized approximation and an approximation based on secondary properties. This is what happens with hedges like _loosely speaking_ and _regular_:

a. Harry is a regular fish.

b. Loosely speaking, Harry is a fish.

(b) seems strange, according to Lakoff, because "it asserts that Harry is a member of the category fish to some degree by virtue of having some secondary property of fish. but, says Lakoff, (a) "simply says that he swims well and is at home in the water, while it presupposes that he is not a member of the category fish whatsoever" (p. 239). "Whatsoever" may be too strong. Harrry is not a fish as a result of secondary criteria, but he is a fish as a rsult of a generalized, metaphorical approximation of reality.

The approximate hedges are often informal words like _sort of_, _loosely speaking_, _regular_, and _kind of_ --all of them referring to either secondary or generalized criteria and all of them typical of informal usages of classification.

Another group of words operates in ways very similar to hedges. First of all there are the informal intensifiers like _a lot_, _plenty_, _very_, and _pretty_ (much). Robin Lakoff (1981b:46) has argued that these intensifiers, although appearing to be very definitive, are, as a matter of fact, approximations:

> They state their claims more weakly than do simple direct performative utterances. Intensives do so by roundabout means, but the fact remains that the strongest argument is

the most direct and understated.

These intensifiers, like the approximate hedges, have their contrasting counterparts in generalizers like largely, typically, in general and in essence --all of them formal and definitive. In Robin Lakoff's terms, the generalizers are more definitive because they are more understated.

In summary, processing chracteristics divided themselves between the easy, approximate reality of informal, conversational speech events, marked by such words as and, sort of, and plenty, and the difficult, definitive reality of formal, explanatory or lecture-type speech events, marked by such words as because, which, technically, and in general.

Processing features often interact with distancing features. For instance, the definitive, clear formulation about reality can be a form of illocutionary suicide. That is, the clear formulation turns the speech event into a presentation with sharing diminished or eliminated, but the approximation keeps reality a shared and implicit matter which the two partners in the speech help to project together.

Modeling Rules:

Modelling features, the third dimension of speech events, describe the text as a setting or channel of communication. The assumption is that the text has some underlying rules about text as a cultural artifact. Olson (1980), for instance, says that textbooks have "an important archival function in preserving what the society takes to be true and valid knowledge from which rules of thought and action may be derived" (Olson, 1980:106). This archival function is not, however, an assumption underlying the social notes that students write in school. In fact, one rule of social notes in schools is that they should be thrown away. This difference between the assumed permanence or the assumed impermanence of a text is one of the fundamental distinctions that Ong makes between oral and written cultures. Ong argues that formal written forms acquired some of the qualities of a monument (1977).

This same difference between permanent and impermanent texts is implicit in Pratt's (1977:134-147) distinction between speech acts which emphasize tellability and those which emphasize assertability. Tellability refers to saying-it- for-the-sake-of-saying-it, and assertability refers to saying-it-for-the-sake-of-an-objective-record. Pratt finds that exclamation marks and words like *absolutely* are tellability markers. They show that the speech event is an impermanent, transitory display, not a precisely organized assertion for the permanent archives.

The text, then, declares by its title, by the way it ends, by its use or non-use of such social note conventions as parenthetical expressions and the capitaliztion of whole words for emphasis that it is either a permanent document or a transitory document. *Conversations*, in general, invoke the rules of impermanence and *presentations* invoke the rules of permanence. In summary, *conversations* have close *distancing*, approximate *processing*, and transitory *modeling*. *Presentations*, on the other hand, have far *distancing*, definitive *processing*, and impermanent *modeling*.

The hypothesis of the present study is that the students in the second group (scores 5-6) may have failed the minimum competency examination because they follow in their writing the rules for *conversational*, not *presentational* speech events. Students in groups three and four, on the other hand, may have passed the examination in writing because these groups followed the rules for *presentational*, not *conversational*, speech events.

Patterns of Conversational Speech Events

As noted earlier (Chapter III) the words and phrases signalling the three dimensions of *conversations* and *presentations* were counted in the writing samples of letters and essays from 1980 to 1981. First, the Pearson correlation and the explained variance for all the letters and essays in the two years was calculated:

	1980			1981		
Topic	No.	r	r2	No.	r	r2
Letter	171	.50	.25	147	.48	.23
Essay	170	.59	.35	169	.48	.23

Next the letters and essays were arranged in four score categories, dropping samples from scores 4, 7, and 10. A one-way analysis of how the *converstional* means vary by score category showed the following:

Essays 1980 and 1981

Source	D.F.	Sum of Sq	Mean Sq	F ratio	Prob
Between Grps	3	18524.0133	6174.6680	38.329	.0000
Within Grps	223	35924.8391	161.0979		
Total	226	54448.8516			

Letters 1980 and 1981

Source	D.F.	Sum of Sq	Mean Sq	F ratio	Prob
Between Grps	3	2974.5247	991.5081	22.264	.0000
Within Grps	196	8728.8616	44.5350		
Total	199	11703.3828			

A Scheffe procedure was used to determine where the significant variation was occurring:

Essays

Group	No.	Mean	S.D.	S.E.	95% Conf. Int.
1980					
Group 1	6	11.83	10.10	4.12	1.2261 to 22.4406
Group 2	42	26.00	9.53	1.47	23.0301 to 28.9699
Group 3	54	37.96	14.68	1.99	33.9553 to 41.9706
Group 4	14	41.28	15.60	4.17	32.2740 to 50.2974
TOTAL	116	32.68	14.99	1.39	29.9235 to 35.4386
1981					
Group 1	38	7.86	4.35	.70	6.4364 to 9.3005
Group 2	36	16.80	10.24	1.70	13.3391 to 20.2720
Group 3	11	17.18	7.56	2.27	12.1025 to 22.2611
Group 4	26	19.30	9.13	1.79	15.6168 to 22.9986
TOTAL	111	14.36	9.33	.88	12.6143 TO 16.1244
COMBINED					
Group 1	44	8.40	5.4870	.82	6.7409 to 10.0773
Group 2	78	21.75	10.8330	1.22	19.3139 to 24.1989
Group 3	65	34.44	15.7837	1.95	30.5351 to 38.3571
Group 4	40	27.00	15.7301	2.48	21.9693 to 32.0307
TOTAL	227	23.72	15.5217	1.03	21.6968 to 25.7569

The groups in the combined data showing significant difference at the p. 05 leevl or beyond are 1-2, 1-4, 1-3, 2-3, 4-3. Only groups 2 and 4 were not significantly different.

Letters

Group	No.	Mean	S.D.	S.E.	95% Conf. Int.
1980					
Group 1	6	8.66	3.72	1.52	4.75 to 12.5745
Group 2	33	12.48	7.75	1.35	9.7334 to 15.2359
Group 3	45	19.86	7.29	1.08	17.6752 to 11.0581
Group 4	14	20.64	5.70	1.52	17.3485 to 23.9372
TOTAL	98	16.80	8.12	.82	15.1774 to 18.4348
1981					
Group 1	23	7.00	5.28	1.10	4.7155 to 9.2845
Group 2	36	11.69	4.21	.70	10.2685 to 13.1204
Group 3	31	13.80	6.66	1.19	11.3616 to 16.2513
Group 4	12	16.41	7.30	2.10	11.7756 to 21.0577
TOTAL	102	11.83	6.34	.62	10.5871 to 13.0796
COMBINED					
Group 1	29	7.34	4.98	.92	5.4476 to 9.2420
Group 2	69	12.07	6.13	.73	10.5989 to 13.5460
Group 3	76	17.39	7.61	.87	15.6548 to 19.1346
Group 4	26	18.69	6.70	1.31	15.9822 to 21.4025
TOTAL	200	14.27	7.66	.54	13.2007 to 15.3393

The groups in the combined data showing significant difference at the p. .05 level or beyond are 1-2, 1-3, 1-4, 2-3, and 2-4, but not 3-4.

Because the same students wrote the letters and essays in 1980, combining letters and essays confounds the results. Nevertheless, the pattern of conversational markers in combined data is not markedly different from that in separate categories:

Source	D.F.	Sum of Sq	Mean Sq	F Ratio	F Prob
Between Grps	3	16279.9352	5426.6445	38.657	.0000
Within Grps	423	59380.8110	140.3802		
TOTAL	426	75660.6875			

The Scheffe procedure on the combined data shows the following:

Group	No.	Mean	S.D.	S.E.	95 % Conf. Int.
1	73	7.9863	5.2849	.6186	6.7532 to 9.2194
2	147	17.2109	10.1456	.8368	15.5571 to 18.8647
3	141	25.2553	14.7548	1.2426	22.7987 to 27.7119
4	66	23.7273	13.5095	1.6629	20.4062 to 27.0483
TOTAL	427	19.2974	13.3269	.6449	18.0298 to 20.5651

The groups showing a significant difference on the combined data for 1980 and 1981 were 1-3, 1-4, 1-2, 2-3, and 2-4, but not 4-3.

One question is whether the amount of conversational markers was influenced more by the type or mode of writing than by score category. Some students may vary audience distance and writing skills by mode, and the question is whether this kind of shift affects conversational patterns more than score categories. A two-way analysis of variance (conversational markers X mode of writing X score category) shows the following:

Source of Variation	Sum of Sq	D.F	Mean Sq	F	F. Sig
Main Effects	27847.131	4	6961.781	65.329	.000
Paper Mode	11567.270	1	11567.270	108.547	.000
Score Cat	18338.395	3	6112.797	57.362	.000
2-Way Interaction	160.125	3	1053.375	9.885	.000
Paper-Mode Score Cat	3160.126	3	1053.375	9.885	.000
Explained	31007.258	7	4429.605	41.567	.000
Residual	44650.492	419	106.564		
TOTAL	75657.750	426	177.600		

The joint effects, main effects, anc interactions effects are all significant, but the F ratio for interaction effects is substantially smaller. The next question is what is the pattern of these effects. A multiple classification analysis shows the following:

Grand Mean = 19.30

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------------------------------------------------------------------------
| Variable +       | N  |Unadjusted ETA  Adjusted for    | BETA
|___Category_______|____|Deviation|____|_Independent_Dev_____|
|Paper Mode        |    |          |    |                     |    |
| 1 Essay          |227|      4.43 |    |       4.92          |    |
| 2 Letter         |200|     -5.03 |    |      -5.58          |    |
|                  |    |          | .35                      | .39|
|__________________|____|__________|____|_____________________|____|
|Score Cat         |    |          |    |                     |    |
| 1 Scores 2-3     | 73|    -11.31 |    |     -12.06          |    |
| 2 Scores 5-6     |147|     -2.09 |    |      -2.08          |    |
| 3 Scores 8-9     |141|      5.96 |    |       6.70          |    |
| 4 Scores 11-12| 66|      4.43 |    |       3.65          |    |
|__________________|____|__________|_.46_____________________|_.49|
```

The patterns in the conversational analysis can be summarized as follows:

1. Conversational markers are at their lowest level of frequency in the papers at the lowest levels of competency. However, the papers at the lowest levels do average seven or eight conversational markers per paper.

2. Conversational markers usually show their greatest increase in frequency between group 1, the lowest level, and group 2, the next highest level. The next most frequent increase occurs between group 2 and group 3, the group just below the top.

3. Between group 3 and group 4, the group at the top, conversational markers show either a small increase or a decline. The small increase does not register a significant difference between the two groups at the top. The decline does register a significant difference between the two top groups.

4. Score categories account for 21 percent of the variance of conversational frequency, and the mode of writing-- letter or essay-- accounts for only 12 percent of the variance, suggesting that increasing conversational markers may have a higher probability of influencing scores than changing the mode of writing.

5. Letters use substantially fewer conversational markers than do essays. The means (X) below show the variations of distancing, processing, and modeling by score group.

Conversations

	Distancing		Processing		Modeling	
Group	Letters	Essays	Letters	Essays	Letters	Essays
1	3.51	4.15	2.62	3.02	1.20	1.22
2	6.10	12.20	4.02	8.16	1.94	1.38
3	11.50	19.90	4.42	11.07	1.45	3.46
4	12.23	11.97	5.00	13.55	1.46	1.47

Presentations

	Distancing		Processing		Modeling	
Group	Letters	Essays	Letters	Essays	Letters	Essays
1	1.20	1.61	1.03	2.56	1.65	1.11
2	2.59	4.64	2.85	5.12	2.47	2.23
3	3.28	6.32	3.80	6.67	3.97	3.06
4	4.88	14.55	4.03	9.87	4.76	4.62

The writers at the lowst levels of competency make the smallest range of adjustments when they shift from essays to letters. That is, low competency students use very few speech event markers, and those markers which these students do use consistently show very little frequency difference from one speech situation (letter) to another (essay). Furthermore, these markers show very little variation from one speech dimension (*processing*, *distancing*, *modeling*) to another.

Patterns of Presentational Speech Events

The total frequency of *presentational* markers was compared with scores, using the Pearson correlation and observed variance:

	1980			1981		
Topic	No.	r	r2	No.	r	r2
Letter	171	.50	.25	147	.84	.71
Essay	170	.67	.45	169	.68	.47

The same calculations were made with the scoring removed for subjects outside of the family, school and other immediate experiences of writer and reader:

	1980			1981		
Topic	No.	r	r2	No.	r	r2
Letter	172	.59	.35	147	.76	.58
Essay	170	.62	.38	169	.63	.40

The removal of this category, the category with the most unreliable scoring, lowers the explained variance for the 339 combined essays from .38 with the category included to .30. For the 319 combined letters the explained variance declines from .48 with the category to .44 without. The results that follow for presentational markers include the distant-subject category in the calculations.

Next the letters and essays were arranged in four score categories, dropping samples from scores 4, 7, and 10. A one-way analysis of how the presentational means vary by score category shows the following:

Essays for 1980 and 1981

Source	D.F	Sum of Sq	Mean Sq	F Ratio	Prob
Between Grps	3	12811.1945	4270.3945	126.791	.0000
Within Grps	223	7510.7944	33.6807		
TOTAL	226	20321.9883			

Letters for 1930 and 1981

Source	D.F.	Sum of Sq	Mean Sq	F Ratio	Prob
Between Grps	3	1951.9609	650.6536	49.614	.0000
Within Grps	197	2583.5291	13.1144		
TOTAL	200	4535.4883			

A Scheffe procedure was used to determine where the significnt variation was occurring:

Essays

Group	No	Mean	S.D.	S.E.	95% Conf. Int.
1980					
Group 1	6	3.66	2.80	1.14	.7233 to 6.6100
Group 2	42	12.38	4.82	.74	10.8779 to 13.8840
Group 3	54	15.64	5.93	.80	14.0270 to 17.2687
Group 4	14	26.71	8.71	2.32	21.6837 to 31.7449
TOTAL	116	15.18	5.86	.71	13.7619 to 16.6001
1981					
Group 1	38	5.55	3.39	.55	4.3533 to 6.6698
Group 2	36	11.55	5.39	.89	9.7318 to 13.3793
Group 3	11	18.09	6.13	1.85	13.9665 to 22.2153
Group 4	26	30.30	8.09	1.58	27.0387 to 35.5766
TOTAL	111	14.54	11.05	1.04	12.4605 to 16.6206
COMBINED					
Group 1	44	5.2955	3.3590	.50	4.2742 to 6.3167
Group 2	70	2.000	5.0757	.57	10.8555 to 13.1445
Group 3	65	16.0615	5.9945	.74	14.5762 to 17.5469
Group 4	40	29.0500	8.3848	1.32	26.3684 to 31.7316
TOTAL	227	14.8678	9.4826	.62	13.6276 to 16.1080

The groups in the combined dta which showed significant differences at the p. .05 level or beyond were 1-2, 1-3, 1-4, 2-3, 2-4, and 3-4.

Letters

Groups	No.	Mean	S.D.	S.E.	95% Conf. Int.
1980					
Group 1	6	5.00	2.36	.96	2.5166 to 7.4834
Group 2	33	6.57	2.58	.45	5.6587 to 7.4928
Group 3	46	12.41	4.27	.63	11.1430 to 13.6831
Group 4	14	12.92	3.89	1.04	10.6813 to 15.1758
TOTAL	99	10.09	3.89	.47	9.1489 to 11.0329
1981					
Group 1	23	7.00	5.28	1.10	4.7155 to 9.2845
Group 2	36	11.69	4.21	.70	10.2685 to 13.1204
Group 3	31	13.80	6.66	1.19	11.3616 to 16.2513
Group 4	12	16.41	7.30	2.10	11.7756 to 21.0577
TOTAL	102	11.83	6.34	.62	10.5871 to 13.0796
Combined					
Group 1	29	7.3448	4.9877	.9262	5.4476 to 9.2420
Group 2	69	12.0725	6.1341	.7385	10.5989 to 13.5460
Group 3	76	17.3947	7.6141	.8734	15.6548 to 19.1346
Group 4	26	18.6923	6.7098	1.3159	15.9822 to 21.4025
TOTAL	200	14.2700	7.6688	.5423	13.2007 to 15.3393

The groups in the combined data showing significant differences at the p. .05 level or beyond are 1-2, 1-3, 1-4, 2-3, and 2-4, but not 3-4.

The 1980 and 1981 data of the presentations, like the conversations, was combined to see whether or not the pattern differed from the separate patterns for essays and letters:

Source	D.F	Sum of Sq	Mean Sq	F Ratio	Prob
Between Grps	3	12923.5120	4307.8359	116.584	.0000
Within Grps	424	15667.0117	36.9505		
TOTAL	427	28590.5234			

The Scheffe procedure on the combined data shows the following:

Group	No.	Mean	S.D.	S.E.	95% Conf. Int.
1	73	4.7397	2.9204	.3418	4.0584 to 5.4211
2	147	9.6190	4.8798	.4025	8.8236 to 10.4145
3	142	13.3521	5.7157	.4797	12.4039 to 14.3003
4	66	23.0000	10.3552	1.2746	20.4544 to 25.5456
TOTAL	428	12.0888	8.1827	.3955	11.2114 to 12.8662

The groups showing a significant difference on the combined data for 1980 and 1981 were 1-2, 1-3, 1-4, 2-3, 2-4, and 3-4.

One question, as noted earlier, is whether the amount of presentational markers was influenced more by the type or mode of writing than by the score category. Some students may vary in their skills with essays and letters and may vary by mode some of the languae used to mark presentations. A two-way analysis of variance shows the following (presentational markers X moce of writing X score category):

Source of Variation	Sum of Sq	D.F.	Mean of Sq	F Ratio	F Sig
Main Effects	16679.461	4	4169.863	173.509	.00
Paper Mode	3755.955	1	3755.955	156.286	.00
Score Cat	12946.371	3	4315.457	179.567	.00
2-Way Interactions	1816.805	3	605.602	25.199	.00
Paper-Mode/Score Cat	1816.806	3	605.602	25.199	.00

Explained	18496.266	7	2642.323	109.948	.00
Residual	10093.668	420	24.033		
TOTAL	28589.934	427	66.955		

The joint effects, main effects, and interactions are all significant, but the F ratio for interaction effects is smaller. The next question is what is the pattern of these effects. A multiple classification shows the following:

Grand Mean = 12.09

Variable + Category	N	Unadjusted Deviation	ETA	Adjusted for Ind. Deviation	BETA
Paper Mode					
1 Essay	227	2.78		2.81	
2 Letter	201	-3.14		-3.17	
Score Cat					
1 Score 2-3	73	-7.35		-7.78	
2 Score 5-6	147	-2.47		-2.47	
3 Score 8-9	142	1.26		1.70	
4 Score 11-12	66	10.91		10.46	
			.61		.67

The patterns in the presentational analysis can be summarized as follows:

1. Presentational markers are always at their lowest level of frequency in the papers at the lowest levels of competency, and these markers are always at their highest level of frequency in papers at the highest levels of competency.

2. In essays, presentational markers show their greatest frequency increase between groups 4 and 3, the top and the next-to-the-top group. In letters, presentational markers show their largest frequency increase between groups 2 and 3, the two middle groups, and nearly as large an increase between groups 1 and 2, the two lowest groups. This may suggest that the business application letter has more social restrictions against conversational structures.

3. Score categories account for 44 percent of the variance of presentational frequency, and the mode of writing--letter or essay--accounts for only 12 percent of the variance, suggesting that

increasing *presentational* markers may have a higher probability of influencing scores than changing the mode of writing.

4. Letters are usually shorter than *conversations*, and *presentational* markers appear less frequently in letters than in essays. But the differences occur in *processing* and *distancing* markers, not *modeling*:

Group	Distancing		Processing		Modeling	
	Essays		Letters		Essays	
1	1.61	1.20	2.56	1.03	1.11	1.65
2	4.64	2.59	5.12	1.85	2.23	2.47
3	6.32	3.28	6.67	3.80	3.06	3.97
4	14.55	4.88	9.87	4.03	4.62	4.76

The *modeling* features may show an increase in letters because in letters the address in the upper left counted as a title and *sincerely* counted as a summary conclusion. In other words, the *modeling* features of the letter are more formulaic and more strictly required than are the *modeling* fetures of essays.

Patterns of Exposition

In essays, *distancing* features show a dramatic increase between groups 3 and 4. *Processing* features are about equivalent to *distancing* features in group 3 essays--in fact, slightly more frequent--but, even though *processing* features do increase significantly from group 3 to 4, the increase lags behind that of *distancing*. The question is why should there be an extreme change in one dimension and not another. The problem may be a result of the fact that the *processing* traits which can be counted in the sample sizes undertaken in this present study do not account for *processing* features of a more complex kind. These more complex features can be seen when two types of papers, both anchor papers from the 1980 and 1981 reading, are contrasted. One paper is a ten, which means it received two fives, and the other is a twelve, which means it received two sixes.

The two papers on a field trip, following two pages, show differences of sentence form and overall organization. At the sentence level, both the five and six use introductory subordinate clauses ("If you are interested..." and "While these places teach wonders..."), but only the six paper begins a sentence with a past participle (Located in the hills above..."), joins an internally punctuated series with a semi-colon (paragraph three), and uses a colon to signal a series (paragraph four). The two papers also differ in the way they establish a thesis in the introduction. The five paper says the Exploritorium is an "excellent" place because "There are so many things to do that the class could easily be entertained for the whole day." The second paragraph adds the notion that students might learn: "It's the kind of place you can go and actually have fun learning." The next pararaph introduces science exhibits without examples and then moves to opening times and entry fees.

The six paper, on the other hand, identifies in the first paragraph the problem of combining entertainment and learning and in the same paragraphs presents the Lawrence Hall of Science as the solution. The next paragraph provides a view of the outside of the Hall and a quick review of the room inside. The next paragraph is a review of the rooms inside, complete with examples. The next to last paragraph introduces movies and activities outside. Then the conclusion restates the thesis: "you have fun while you learn." The six paper shows more complex sentence structure, a more precise formulation of the thesis, and a consistent pattern of generality followed by example.

The next two papers on a favorite person show a similar contrast. The five paper introduces Mrs. Christine Wilson and her love and understanding. The next paragraph indicates that her love and understanding extended to other students and teachers. The conclusion returns to the present friendship between the writer and Mrs. Wilson. Like the other five paper, this five, although focused on a topic, has a rather generalized focus, a mutual friendship, which is repeated ("She has always made me feel like a daughter...") without being developed in specific examples. This five, like the other, also has some indication of an attention to and an awareness of sentence form: "She treated the other students as adults, not like fourth, fivth, and sixth graders as we were."

But the attention to sentence form is not as apparent as it is in the six. The six paper twice places the modifiers after the noun, something less sophisticated writers rarely do: "He was a man, rather old, about 85 or so" and "He survived the surgery, the strong willed man he was." The overall organization begins with a focus on two qualities, "friendly" and "strongheaded." The next paragraph presents evidence of the "friendly" thesis--the visits each day, the hot

WRITING SAMPLE A

106-A

Field trips are trips many classes take to learn facts that ordinarily cannot be taught in school. While these places teach wonders to children, the children must also have fun while learning or else they will be bored, confused, or dejected. One place where everybody has fun and learns at the same time is the Lawrence Hall of Science in Berkeley.

Located in the hills above the University of California, the Lawrence Hall of Science has everything. It has a marvelous view of the bay, acres of land to explore and many rooms to learn biology, computer science and astronomy. The mind is filled with awe at the sights and sounds of all the experiments and gadgets linked to the sciences.

There are computers to make functions, play games and program yourself; experiments dealing with electricity, gravity, natural resources and light; telescopes to learn about the Sky; puzzles to trick the mind; and even a mime by a clown. It is a learning experience for all and fun for everybody at the same time

Guides are available for special groups and there are plenty of things to be amazed with outside the hall: looking for tracks of animals, bird watching and trying to determine the distance from the Berkeley Marina to the University. There is plenty of space for children to play tag and eat lunch in the beautiful setting.

A full day at the Lawrence Hall of Science introduces the vast wonders of the world to children and is often remembered because you have fun while you learn. Children enjoy spending a day there and often enjoy more trips to the Lawrence Hall of Science.

⓪①②③④⑤⑥
SECOND SCORE

⓪①②③④⑤⑥
THIRD SCORE

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WRITING SAMPLE A

1063

The Exploritorium in San Francisco is an excellant place to take any class on a field trip. There are so many things to do that the class could easally be entertained for the whole day.

There are students who are not interested in science at all. But, after going to the Exploritorium they are at least a little more interested. It's the kind of place you can go to and actually have fun learning.

Most of the exhibats are basic science. They are usually thing you take for granted, or never really thing about. Usually they are things you might see every day.

The Exploritorium is open every day and there is no admission fee. Donations are what Keeps the Exploritorium going, and if you are interest you can obtain a membership to help support the exhibats.

Please keep this in mind when you are choosing a place to go on our field trip. It really is an exciting and educational place to visit.

ES

DT

⓪①②③④●⑥
SECOND SCORE A

⓪①②③④⑤⑥
THIRD SCORE A

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No. 71

WRITING SAMPLE

107-A

"Great Impression"

Mrs. Christine Wilson was my teacher during my elementary years. She made a great impression on me. I remember her mostly becouse of the love and understanding she gave me. She was always there when I needed her, and she still is to this day. We had our ups and downs as normal people do, but we always managed to solve our problems.

She treated the other students as adults not like fourth, fifth and sixth graders as we were. All of the other students as well as Teachers respected her. She has always made me feel like a daughter to her.

Today we are still very close friends even closer than before. She is one heck of a lady. I will always love Mrs. Wilson.

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No. 41

WRITING SAMPLE

107-B

The person in my life who made a great impression on me was a friendly, strongheaded man, Mr Engstrom, who lived next door to me. He was a man, rather old, about 85 or so. He was a grandfather figure to me. I called him Grandpa Engstrom.

As a child of about 7 years, I remember running over to visit him everyday after school. We used to sit by the fire sipping hot cocoa and he'd tell me all kinds of storis about his past. One story he told me, touched me so much, I shall never forget it as long as I live.

When he was 40 years old he was by himself in a cabin out in a forest and was accidently shot in the arm by a rifle. In this tragic accident his arm was half way blown off, but he didnt panic, he forced himself to get to a Train. He had to take the train to the nearest docter who was about to leave away.

The docter said his arm was to be computated or he may die. Grandpa Engstrom refused! He survived the surgery. The Strong willed man he was.

Grandpa Engstrom is dead now but I still look over in his old vegtible garden, which is now just weeds and I can see him working away.

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cocoa, the stories. The third paragraph begins the story which focuses on the "strongheaded" thesis, concluding with a short emphatic sentence--"Grandpa Engstrom refused!" The two parts of the thesis have been woven together by making the "friendly" thesis the setting for the "strongheaded" evidence. Then the paper closes with the image of passing time ("his old vegtible [sic] garden, which is now just weeds") and the sustained image of the old man ("I...can see him working away").

These two pairs suggest that in the top papers students add a layer of traits from expository speech events not present in papers at lower levels of competency. Both *conversations* and *presentations* have common oral forms. The expository speech event in oral form would be ritual ceremonies like oaths of office. When *expository* papers are read aloud, as *presentations*, as sometimes happens at conventions, the result for the listeners is usually confusion and despair. Expository prose is understandable only as a form of ritual highly conventionalized within a given community. Like most rituals, expository prose is a verbal construct and a pattern, and it is a speech event in the sense that it is a piece of language which is to be put on display so that readers can examine it. It is a communication event in the same sense that a photography exhibit is a communication event. The difference between *expository* prose and *presentations*, the closest oral register, is that *expository* prose dramatically extends the distance away from the audience and adds a layer of *processing* which is different. The difference is the consistent ordered pattern of thesis development--opening, closing, generality, example--and a cummulative sequence. In addition, the sentences begin to embed information without the use of subordinators like *who* and *while*. The "strong-willed man he was," for instance, embeds information with an appositive, unmarked by a subordinator, and with a subordinate clause, also unmarked by a subordinator. The basic difference between *processing* in *presentations* and *processing* in *expositions* is that *processing* in *presentations* projects a definitive, complex reality and *processing* in *expositions* projects, in addition, autonomous linguistic form, both at the sentence and text level, as a definitive, complex reality. In *exposition*, therefore, the *modeling* rules begin to merge with the *processing* rules. The notion of exposition as "autonomous written prose" (Olson, 1981) is another way of saying that the text becomes a part of the reality which is projected, just as a painting may project a reaity and is itself an object or form for study.

The existence of *exposition* as a third register of speech event helps explain both why the top two levels of letters show very little change in *presentation* features and how some kinds of *processing* and *modeling* are not accounted for by *presentation* features. Letters, unlike *conversations* and *presentations*, require that the writers invoke rules of autonomous linguistic form in the *processing* and *modeling* of the text. The date, the address, the opening, the closing--all are highly stylized and conventional and are independent of other rules about *processing* subject matter and marking *distancing*. The markers that cominate in some letters may be signalling the *expository* rules which mark independent linguistic form. The markers are not, as noted earlier, easily counted. The point is that the change in top letters is not accounted for by features of *presentations* and *conversations*. A similar pattern of expository influence appears to account for the shift from a competency level near the top (10) to the top (12).

Summary

Four speech events appear to underlie written composition, representing different levels of compentency. These four speech events are a set of rules which writers must invoke in their writing in order to establish a certain relationship with the audience, to project a particular reality, and to shape a certain kind of text. These speech events are one way of describing what is meant by higher order skills in writing, and because these three speech events have comparable forms in oral language, writing appears to be not so much a shift from oral language as a layer which is added to or built on an oral language foundation. The next chapter will examine developmental trends in *encoding*, *conversations* and *presentations*.

CHAPTER VI: *The Developmental Pattern: From Encoding to Ritual*

The writer at various levels of competency uses *encoding*, *conversational*, *presentational*, and *expository* structures. The question addressed in this chapter is what are the developmental trends from grades 4 through 12? In October, 1977, as noted earlier, 2,690 students in Oakland, California, grades 4 through 12, wrote a writing sample on "an object you are especially attached to." In May, a different group of 2,271 students wrote on "a person you like, dislike, or admire." These papers were scored, and a sample of 182 was drawn. Three of the papers had missing information, leaving a sample of 178, 91 from October and 97 from May.

Five interactions were analyzed: (1) between grade level and encoding structures, (2) between grade level and average number of words per writing sample, (3) between grade level and conversational structures, (4) between grade level and presentational structures, (5) between scores and grade level, and (6) between the Z scores of the three strucrtures.

Encoding Structures

The means of encoding markers in grades 4 through 12 in the sample of 182 were as follows, including pre, post, and combined:

Grade	Pre		Post		Pre-Post Combined		
	No. (Papers)	X Mean (Nov.)	No	X Mean (May)	Total No.	Coding	Score
4	0	0	5	.0369	5	.0369	5.4
5	5	.0340	0	0	5	.0340	5.0
6	5	.0179	4	.0131	9	.0165	6.5
7	14	.0293	11	.0434	25	.0343	6.3
8	11	.0028	13	.0264	24	.0149	5.9
9	13	.0250	26	.0164	39	.0195	7.6
10	13	.0189	12	.0430	25	.0291	7.6
11	15	.0112	14	.0134	29	.0123	8.1
12	5	.0121	12	.0072	17	.0083	8.1
TOTAL	81		97		178		

The means (X) of the total words by grade were as follows:

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Grade	No.	Mean	S.D.	Grade Grp	Mean	N
4	5	119.00	52.03			
5	5	111.00	49.61	I (4-5)	115.30	10
6	9	156.11	90.71			
7	25	180.16	94.63	II (6-8)	161.31	60
8	26	145.00	67.95			
9	40	226.10	91.44	III (9-11)	233.71	95
10	25	227.76	121.75			
11	30	248.83	141.65			
12	17	224.47	225.33	IV (12)	224.47	17
				*1-3,2-3		
TOTAL	182			*1-3,2-3		182

* indicates pairs are significantly different at the p. .05 level and beyond.

The pattern of pre, post, and combined conversational markers at each grade level in the sample of 182 was as follows:

Conversational Markers at Grade Level						Scores at Grade Level	
Grade	Pre No	Pre	Post No	Post	Comb.	Sample Score Comb. X (No.)	Pop Score Comb. X (No.)
4	0	0	5	15.4	15.4	5.4 (5)	4.42 (217)
5	5	13.6	0	0	13.6	5.0 (5)	4.48 (202)
6	5	22.4	4	17.5	20.22	6.5 (9)	5.24 (245)
7	14	32.0	11	19.27	26.40	6.3 (25)	5.16 (554)
8	12	25.79	113	21.76	23.68	5.0 (25)	5.19 (793)
9	13	29.30	26	27.92	28.34	7.6 (39)	6.68 (933)
10	13	37.07	12	26.58	32.04	7.6 (25)	7.22 (718)
11	15	34.64	14	29.00	31.93	8.1 (29)	8.01 (611)
12	5	20.69	12	23.25	22.47	8.1 (17)	8.45 (182)

The means (X) of the conversational markers are significantly different in two areas: (1) between grade 11 and grade 12 combined, and (2) between the grade 8 post-mean and the grade 9 post-mean.

The pattern of pre, post, and combined

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presentational markers at each grade level is as follows:

X of Presentational Markers at Grade Level						X Scores at Grade Level	
Grade	Pre No.	Pre X	Post No	Post X	Comb X	Sample Score	Pop Score
						Comt X	Comb X
4	0	0	5	7.8	7.8	5.4 (5)	4.42 (217)
5	5	7.6	0	0	7.6	5.0 (5)	4.48 (202)
6	5	6.22	4	6.25	6.22	6.5 (9)	5.24 (245)
7	14	9.42	11	8.27	8.92	6.3 (25)	5.15 (554)
8	12	10.0	13	7.46	8.68	5.0 (25)	5.19 (554)
9	13	12.61	26	14.0	13.53	7.6 (39)	6.68 (933)
10	13	14.23	12	12.41	13.46	7.6 (25)	7.22 (718)
11	15	13.00	14	16.71	15.20	8.1 (29)	8.01 (611)
12	5	11.60	12	13.83	13.17	8.1 (17)	8.45 (688)

The means of the presentational markers are significantly different only between grade 8 and grade 9.

Scores

The pattern of scores in the population of 4,961, 2,690 pre scores and 2,271 post scores can be found in Appendix D.

Conversational and presentational structures show the following patterns of change from group I to group IV in the grade 4-12 data:

Group	Convers. Mean	Change	Present. Mean	Change
1 Scores 2-3	7.9863		4.7397	
2 Scores 5-6	17.2109	+9.2246*	9.6190	+4.8793‡
3 Scores 8-9	25.2553	+8.044*	13.3521	+3.7331‡
4 Scores 11-12	23.7273	-1.528**	23.0000	+9.6479‡

For presentations, the following changes are statistically significant: Group I to Group II, Group II to Group III, Group III to IV. For conversational

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structures, the following changes are statistically significant: Group I to II and Group II to III.

Because the encoding index is the result of dividing by total number of words, and conversational and presentational markers are not, the encoding indexes cannot be compared with the other two except by translating all three indexes into Z scores and then examining the relationship. The following is the Z scores for the three structures at each grade level:

	Encoding Z Scores			Conversational Z Scores			Presentational Z Scores		
Gr	Pre	Post	Comb	Pre	Post	Comb	Pre	Post	Comb
4	0	1.46	1.46	0	+18	+22	0	46	51
5	+1.16	0	1.16	3	0	+8	+51	0	48
6	+87	+52	72	57	+45	+51	+32	29	30
7	+1.37	1.69	1.53	85	+59	+98	+75	54	65
8	+1.30	+94	1.11	77	+79	+80	+82	1.56	60
9	+93	+90	91	99	+1.27	1.11	1.15	1.24	1.23
10	+72	1.18	96	1.44	+1.16	1.36	1.37	1.05	1.21
11	+68	+91	79	1.31	+1.36	[illegible]	1.31	1.58	1.42
12	+94	+56	68	46	+91	71	1.02	1.22	1.19

A pattern very similar to that found above in the grade distributions is also found in the comparison of Z scores for the three structures in the ninth grade samples (428 letters and essays):

Score Group	Encoding	Conversation	Presidentation
Scores 2-3	+1.60	-.84	-.89
Scores 5-6	-.03	-.39	-.30
Scores 8-9	-.45	+.46	+.15
Scores 11-12	-.72	+.33	+1.33

The next three pages show graphs of the Z scores for encoding, conversations, and presentations. The next page shows the Z scores for both October and April at each grade level during 1977-1978. The next page shows the Z scores for the combined data, October and April, at each grade level. Last, page 115-C shows the graph of Z scores for both letters and essays, 1960 and 1981, at the ninth grade level.

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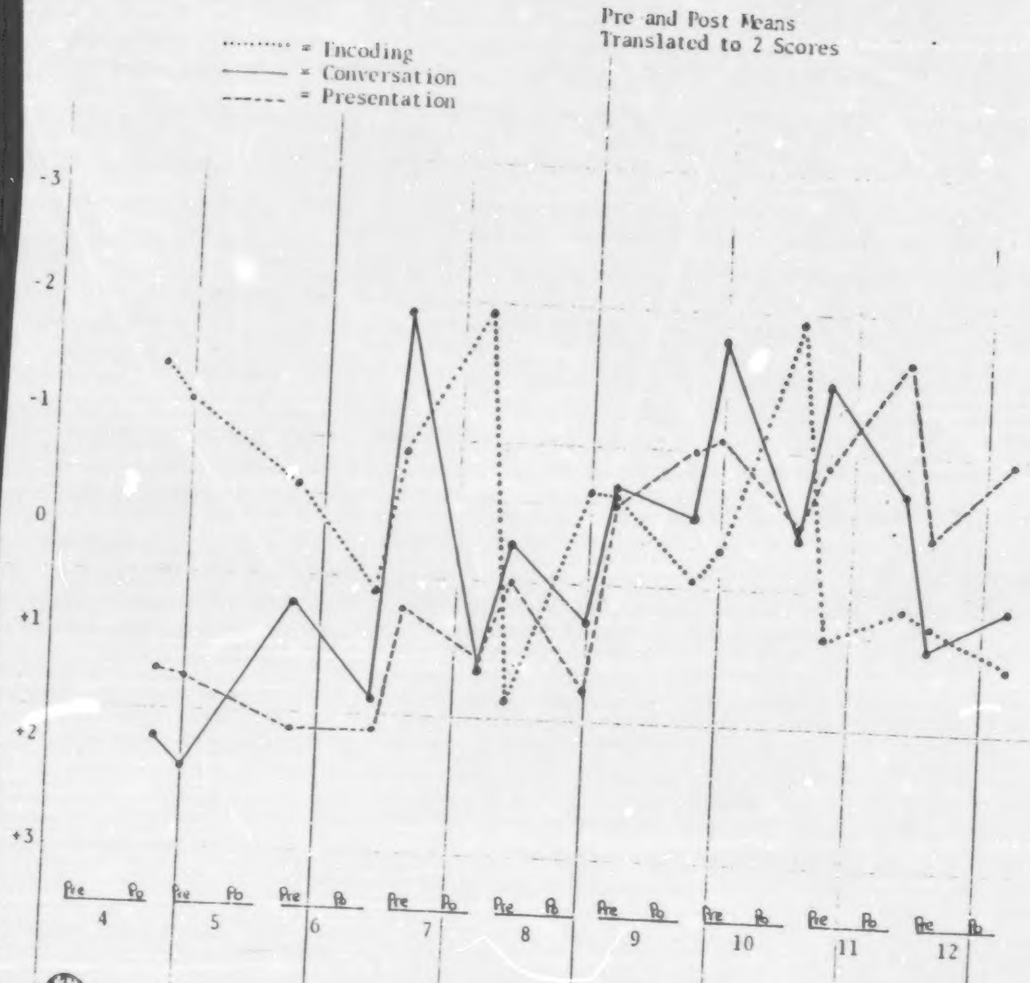
Pre and Post Means
Translated to 2 Scores



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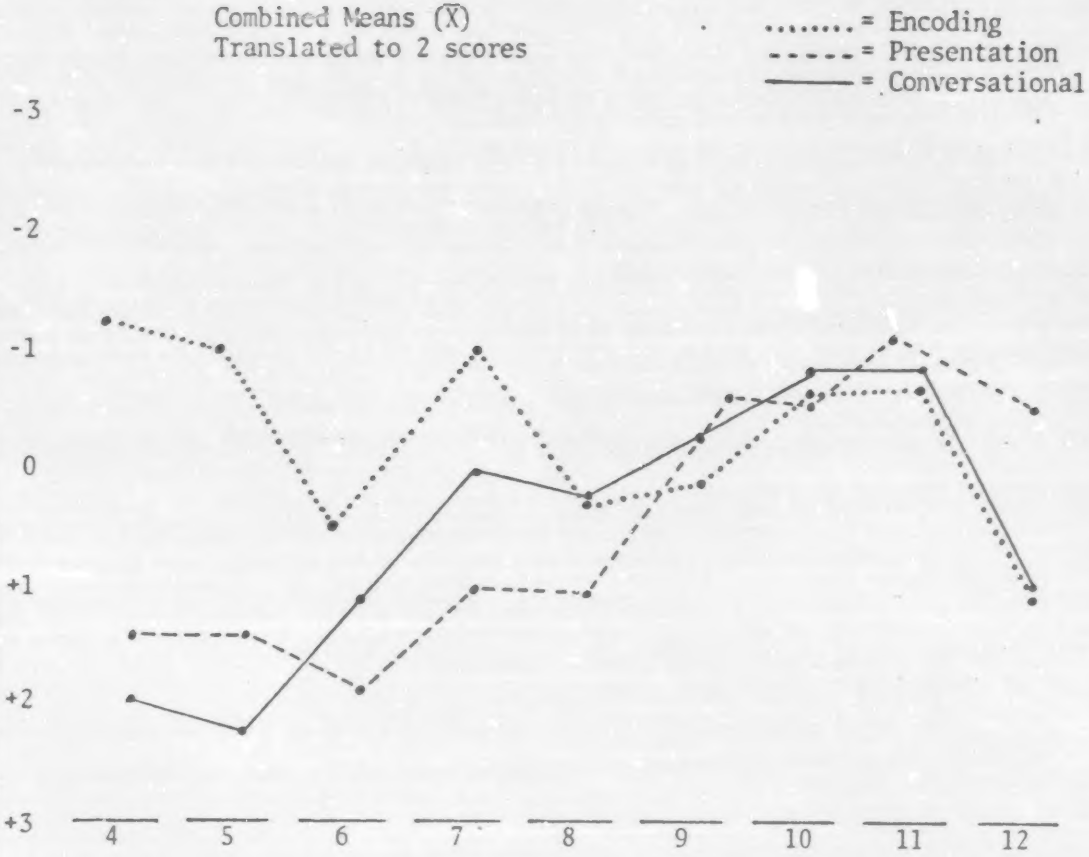
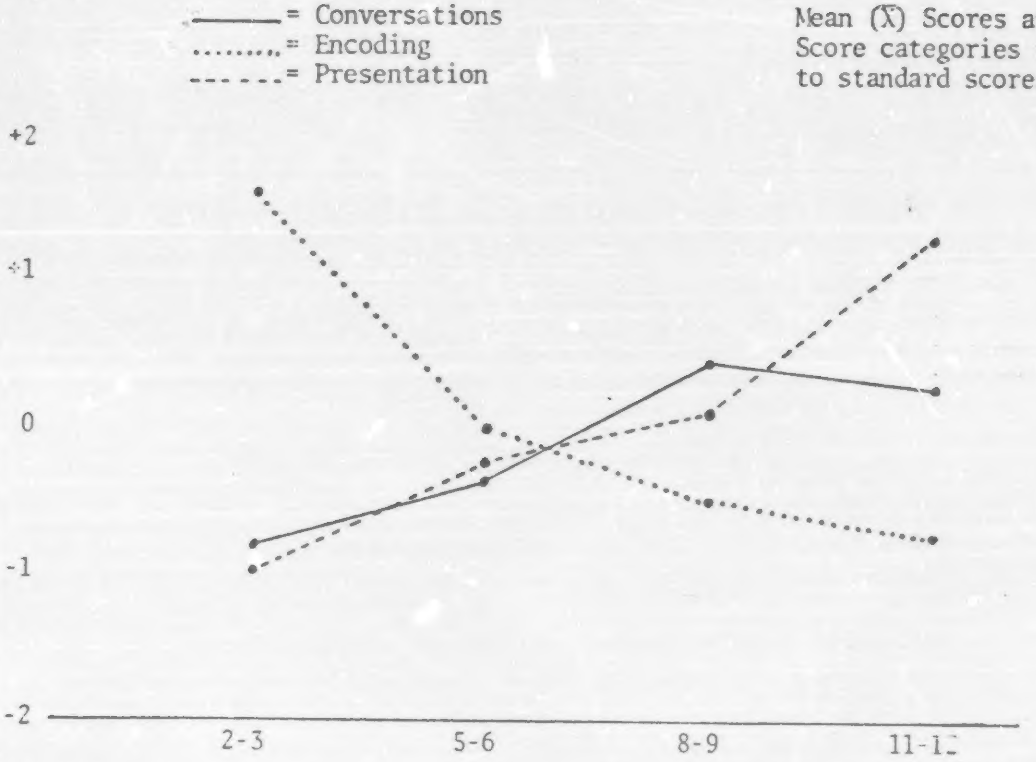

Combined Means ($\overline{X}$)
Translated to 2 scores
........= Encoding
-----= Presentation
———= Conversational
-3
-2
-1
0
+1
+2
+3
4
5
6
7
8
9
10
11
12

GRADE 9



Mean ($\bar{X}$) Scores at
Score categories translated
to standard scores (2)

The development trends that emerge are the following:

1. Between grades 8 and 9, there is a statistically significant increase in writing scores, in *conversational* markers, and in *presentational* markers. This increase occurs at the same time that the relationship between the three structures of *encoding*, *conversations*, and *presentations* is undergoing a marked change. In eighth and ninth grades, *conversational* and *presentational* structures are both showing a consistent challenge to the dominance of *encoding* structures.

2. Although there are a few inconsistencies in the data, overall the speed of cognitive processing shows a steady increase throughout the grades. The evidence for this is the data on total words. All of the essays were written within a fifty minute time period. The means (X) at each grade level and the test of significant differences among groups of grades raise the question of whether there may be a ceiling effect in processing speed at the upper grades. That is, some students in the twelfth grade may have reached a point close to their maximum processing speed within a fifty minute period. The pause data suggested that there may be both a ceiling and floor effect in the writing--a point beyond which a faster speed is not helpful and a point below which the speed cannot go without having the process disintegrate. This pattern of performance is typical of *babbling* or pre-conversational speech events in oral language.

3. *Encoding* structures dominate the attentional capacity of writers at the lowest levels of competency and in the early grades, 4-7.

4. *Conversational* and *presentational* structures re almost equivalent in the early grades, 4-5, and at the lowest levels of competence. But in grades 6-7 and at the competency level just above the bottom, *conversational* structures clearly dominate. In grades 11-12 and in the highest level of competence, *presentational* begins to dominate relatively speaking (as shown by Z scores). In absolute numbers, *presentational* markers are still dominated by *conversational* markers at grade 11 (15.20 to 31.93) and grade 12 (13.83 to 23.25) and in combined letters and essays for 1980 and 1981 in grade nine:

Group	Conversation Mean	Presentation Mean
1	7.9863	4.73
2	17.2102	9.61
3	25.2553	13.35
4	23.7273	23.00
Significantly different:	1-4, 1-3, 1-2 2-4, 2-3	1-4, 1-3, 1-2 2-4, 2-3 3-4

As noted earlier, expository structures begin to appear in the top papers, and these structures may have an influence on scores in the upper grade levels.

One issue in the relationship of conversational, presentational, and expository structures is whether the writing shows a shift from one structure to another or shows a layering of one structure on top of another. A shift would be shown, for instance, by a sharp drop in conversational markers after a stage or period of dominance. Conversational markers show a decline in the data in two places--from group 3 to group 4 in the combined essays and from grade 11 to 12 in the combined October-April samples. The decline of presentational structures in the essays, however, is small, the smallest change from one group to another in the combined essays, even though statistically significant, and the drop in grade 12 could very well be a result of the small early sample (5). Pre-post Z scores show conversational markers moving upward at the end of the school year. The general impression, therefore, is that conversational markers increase, then presentational markers are added as a layer, and then expository markers are added. Each addition will cause some change in the underlying layers--changing the frequency of certain distensive markers, for instance--but underlying forms never totally disappear, as would occur in a shift. The layering metaphor also suggests a developmental trend from conversational to presentational to expository structures.

This trend is consistent with the general

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principle of the scaffold in language learning. Applebee gives as one example of this principle: the child relying "on a skill which the child has already developed (dialogue) to develop a new skill (narrative)" (1980:8). In this present study, the student appears to rely on *conversational* structures, already well known in oral language, to develop a new skill, *presentational* structures. Cazden (1980) suggests that often in language learning the scaffold "self destructs as the need lessens." The scaffolding process observed in this present study is not one where the scaffold self-destructs. The scaffold here is always an underlying layer. The fact is that *conversations* and *presentations* continue to have their own inherent usefulness in the appropriate speech event long after their basic usefulness as a learning scaffold has diminished.

5. *Encoding* structures, graphed on the previous pages, have an inconsistent pattern from one grade to another. However, an examination of the writing samples suggests that the students are making dramatic changes in their handwriting and their world knowledge and that these changes contribute to problems in *encoding*. For instance, the shift from printing to handwriting may produce more problems of spelling and making letters, and devoting attention to the shift from one speech event structure to another may produce temporary *encoding* difficulties. In all of the single grade data (9) however, *encoding* structures show a consistent pattern, a sharp decline as students move out of the lowest levels of competency and almost a total disappearance of *encoding* problems at the top levels:

Coding	Mean	Sig. Grp. Diff.
Group 1	.211	1-4, 1-3, 1-2
Group 2	.0757	2-4, 2-3
Group 3	.0413	3-4
Group 4	.0184	

In summary, then, the developmental trends in writing competency suggest four underlying speech events--*encoding*, *conversations*, *presentations*, and *exposition*/*rituals*.

CHAPTER SEVEN: Fluency, Focus, and Form: The Implications for Learning

The results of the present study suggest that students at different levels of competency in school writing may have problems in different areas of competency and that these different levels may show developmental trends. There are three levels of writing competency in schools: (1) the lowest level, which has problems primarily with the cognitive task in writing and needs to develop fluency; (2) the middle level, which has problems primarily with the sociolinguistic task in writing and needs to develop focus; and (3) the highest level, which sometimes has problems with the linguistic task in writing and needs to develop form.

The student writers at the lowest levels of performance allocate more of their attention capacity to small units like letters and words than do other writers, and this increased attention is not reflected in improved performance at the letter and word level. In fact, the student writers at the lowest levels of performance have more *encoding* problems than do other writers. These same writers wrote fewer words in the time allowed, have more inflection errors (subject-verb agreement, past tense, and pronoun case), have fewer punctuation errors of a certain type (apostrophe, comma for a series, comma for introductory or independent clause), have fewer speech event markers, and show few differences in speech event frequencies form one dimension to another (*processing*, *distancing*, and *modeling*) and from one mode to another (letter to essay).

These problems of the lowest skilled writers suggest the processing demands placed on them. The cognitive task in writing requires the student to use various strategies for remembering letters, words, and other language conventions. This requires retrieving the information either from short term and long term memory or from various levels of memory. Methods of retrieval can include automaticity, which is an automatic mechanism; chunking, which seems to require some attention and is a way of retrieving information which has a pattern or meaning expectancy; and full, conscious attention. The problem for the poor writer is that when word recognition is slow, and not automatic, conscious attention directed by an expectancy from previous context, has time to intervene, inhibit retrieval of information from unexpected sources, and to direct attention to the memory location of the expectancy. Thus the slow or poor writers have an additional aid in their expectancy to aid their encoding of a word, attention added to what resources exist in automaticity, but this additional aid is purchased at a cost. The attentional capacity is expended on writing a particular word and is, therefore, not available for integrating larger units of text. Automaticity and attention can occur simultaneously, and if automaticity is handling the writing of words, then attention can be expended on integrating sentences and paragraphs.

The first problem of poor writers, then, is that so much attention is directed to word and phrase processing, that sentence and paragraph planning cannot take place and, therefore, very few large units are written.

The question is what can be done in schools to help writers at the lowest levels of competency? One issue is whether the teacher of the writer at the lowest levels of school competency should emphasize practice with low-level stimulus analysis. Polyani (1975, p. 33) gives some interesting advice on this issue:

> A striking feature of knowing a skill is the presence of two different kinds of awareness of the things that we are skillfully handling. When I use a hammer to drive a nail, I attend to both, but quite differently. I watch the effects of my strokes on the nail as I wield the hammer. I do not feel that the handle has struck my palm but its head has struck the nail...I know the feelings in the palm of my hand by relying on them for attending to the hammer hitting the nail. I may say that I have a subsidiary awareness of the feelings in my hand which is merged into my focal awareness of my driving the nail.

In writing, the distinction between the two skills, low-level stimulus analysis and contextual facilitation, is like Polanyi's distinction between subsidiary and focal awareness. If one thinks primarily about the hammer, one may increase one's problems holding the hammer and will probably miss the nail, and if the teacher focuses primarily on low-level stimulus analysis, the teacher may, unwittingly, promote problems of encoding, and the student will miss the context entirely. In other words, direct conscious attention to low-level stimulus analysis may reduce the amount of automatic analysis and also reduce the amount of conscious attention that can be given to larger units like the speech event underlying the writing.

What is the evidence that attention to the speech event underlying a piece of writing can facilitate learning to write in the early stages? Applebee (1981), as noted earlier, has called attention to the principle of scaffolding in language learning: the learner uses a skill which the learner has already developed to learn a new skill. One skill which all young writers have learned by the time they are in secondary schools or earlier is the skill of having a conversation with someone. Thus, if the poor writers put a conversational situation in their focal awareness, they can be learning the encoding in their subsidiary awareness. Poor writers begin writing with a few conversational markers, certainly more than presentational markers; the foundation is already present.

The evidence suggests the possibility that attention to writing as a conversational event will improve the students' use of encoding structures. In this present study, the sudents who show the most dramatic decline in encoding problems, those who are in group two, also show a dramatic increase in conversational structures. The studies of Dore, Bruner, and Beneviste also argue for attention to conversational interactions.

Dore (1979) has suggested that the conversational act can be used to describe a class of communicative behaviors which appear before the onset of word production. These joint action formats (Bruner 1979, pp. 87-88) or protoconversational acts (Dore, 1979, p. 342) include such joint actions as peekaboo games and gesture imitation between mother and child. Beneviste (1971, pp. 218) has argued that an I-you concept is a basic foundation for discourse, and Lyon (1974) has argued that reference for many words such as here, there, now, and later are dependent on the development of an I-you concept. In summary, some kind of interaction context or I-you concept is projected by low performance writers in their writing, and this interaction is an essential part of the first stages of language learning.

The approach suggested here for poor writers, then, is one in which the task begins with a single emphasis on some functional interaction in a conversational speech event. If the school must also give some attention to spelling and other encoding matters, then those matters can come later, after the student writer has finished writing the first draft. The primary aim of instruction for poor writers will be the development of fluency. Fluency refers to the solution of the basic problem in the cognitive task, the absence or near-absence of automaticity in writing. Fluency appears to be best taught through the instructional principle of indirection: assign a functional nail if one wants to teach how to grip a hammer.

The students at the middle levels of writing competency in schools have solved many problems of encoding. However, the students at this level have more punctuation problems of a certain type (apostrophe, comma in a series, comma for introductory and independent clauses) than do the students at the lowest levels of competency. This increase in punctuation problems of a certain type suggests, of course, that these middle students are experimenting with larger units of text. In any case, mastery of spelling and other mechanical matters will not ensure that a student will attain the school's definition of minimum competency in writing.

One test of the relationship between writing and mechanics is how well the scores of the same students on different language tests correlate with the students' writing score. Scores from 676 students on a vocabulary test (Comprehensive Test of Basic Skills), a reading comprehension test (Comprehensive Test of Basic Skills), a language expression test (Comprehensive Test of Basic Skills), a district spelling test, a writing test, and a district test of mechanics were correlated. The writing test provided an essay score (favorite person) and a score on a letter (request for employment), both scores coming from the proficiency test in the spring of 1980. The scores on the favorite person essay were then correlated with all of the other tests:

Test	Correlation With the Essay Score in the District N=676
Mechanics	.35
Spelling	.38
Language Expression	.41
Vocabulary	.44
Reading Comprehension	.55
Writing a Letter	.66

The correlations seem to suggest that passing a mechanics test may have less to do with learning to write than actually writing something or doing other language activities.

Another part of the issue is the claim that learning mechanics may be a way to teach a certain kind of student how to write. The kind of student usually suggested is one who likes math. In a 1980 sample of 2,352 students who had passed the math test in the district proficiency exam, 1,653 students passed the mechanics test. Of these students who passed both math and mechanics, only 49.7 percent also passed the favorite person essay exam. In this same group only 52.69 percent passed the employment letter assignment.

The students who attain minimum competency in school writing are those who show a substantial increase in both _conversational_ and _presentational_ speech markers, the increases shown in the two middle groups, from group 2 and group 3. The shift from the middle level of competency to the high level requires an increase in the use of _presentational_ structures. Sometimes in school situations the middle writer seems to be caught between two competing sets of rules. The writer at the lowest level has no attentional capacity left over for such large unit concerns as speech events. But the middle level writer does have such attentional capacity available and the competing rules may become a problem.

First there is the competition between the rule of expressibility (express yourself) and the rule of clarity (be clear). The rule of expressibility is followed in the close distancing and approximate processing of _conversational_ structures, but the rule of clarity is followed in the definitive processing of _presentational_ structures. _Presentations_ give clearer and more detailed outlines of the world, but *presentational* lack the personal expression which is possible in conversations. Clarity, in fact, is in many *conversational* situations an unfriendly gesture toward the conversational partner.

Second there is the rule of readability (make it easy to read) and the rule of efficiency (omit needless words). The rule of readability is often followed in *conversational* structures --making things easy to follow in a series of "and's," for example-- but the rule of efficiency almost never is. The rule of efficiency calls for embedded clauses, subordination, participle-modifiers--all techniques for removing needless words and all characteristic of *presentations*. Simple coordination and very emphatic intensifiers, on the other hand, are techniques of readability, are characteristic of *conversations*.

Third there is the rule of one-person communicability and the rule of unity. One person communicability is a series of injunctions like write-it-the-way-you-say-it-to-a-friend and think-of-the-reader-as-someone-you-know. Unity refers to matters like a concluding generalization and a title. The former occurs in *conversations*, the latter in *presentations*. The formal conclusion and title are, to some degree, anti-social. The formal conclusion tends to shut off matters, leaving little for the *conversational* partner to do, and the title is an announcement that what follows is not a personal message.

The implications for teaching are clear. First of all, if the student is being encouraged to emphasize presentational structures, then the right set of rules must be emphasized. Second, students need to be made aware of the fact that writing rules vary in their importance from situation to situation. Finally, a writing program should provide experiences with both *conversations* and *presentations* in functional situations, giving the students experience with all types of *conversational* and *presentational* writing and the opportunity for *babbling* (free writing) and *ritual* (exposition) (see diagram, next page).

The writing assigned in classrooms and in competency exams represents a mid-point in the contrast between *conversations* and *presentations*. The social notes written in school and school textbooks represent the extremes.

In a pilot study of the presence of the speech events in writing encountered in schools, the social notes written in class and the school textbooks showed the following contrast (Myers, 1981, see Appendix G):

Feature	Social Notes (conversations)	Textbooks
Distancing		
Close	.123	0
Far	.005	.059
Processing		
Approximate Loosely Connected	.046	.054
Definitive Embedded	.012	.072
Modeling		
Impermanent	.042	.0
Permanent	.000	.022
Conversations	.211	.054
Presentations	.017	.153

The approach suggested for the middle writer here assumes that the rules are best learned in a functional situation. The simulations proposed by Moffett (1973) and others are useful--and, to some degree, schools will always be limited to some simulations--but the effort to establish a wide variety of functional context for writing in schools should be the primary aim of an instructional program. In any event, the primary problem for the middle level writer is to determine the appropriate focus for a given speech event. Focus refers to the basic problem of the sociolinguistic task inherent in a writing assignment--identifying the appropriate form and frequency of distancing markers, distancing, processing, and modelling, all signalling a particular conversational and presentational speech event.

The problems of writers in the top levels of competency were examined in two pairs of writing samples, each pair having scores 10 and 12 on the same topic. The evidence from these pairs, both at the high level, suggests that the students who reach the top scores add an emphasis on linguistic form which is missing from the papers at lower levels. Linguistic form (or expository signal) refers to syntax--moving modifiers after the noun, for instance--and to text organization--the pattern of generality and example, for instance. The potential diversity of these patterns needs additional study in a population of students beyond high school. It appears that students in the secondary schools can attain minimum competency in writing, as measured by school district criteria, without much elaboration of *expository* markers.

These three levels of competency, each with a different kind of writing problem, show two tends in the developmental data: (1) a layering effect in which each structure is an addition rather than a complete replacement and (2) a sequence from the early grades to the later ones. The layering effect shows the following pattern at each competency level:

Low Level

Full Attention *Encoding*
Converstation
Presentation

Middle Level

Full Attention *Conversation*
Presentation
Encoding

High Level

Full Attention *Presentation/Expository*
Conversation
Encoding

(See Diagram on the Next Page)

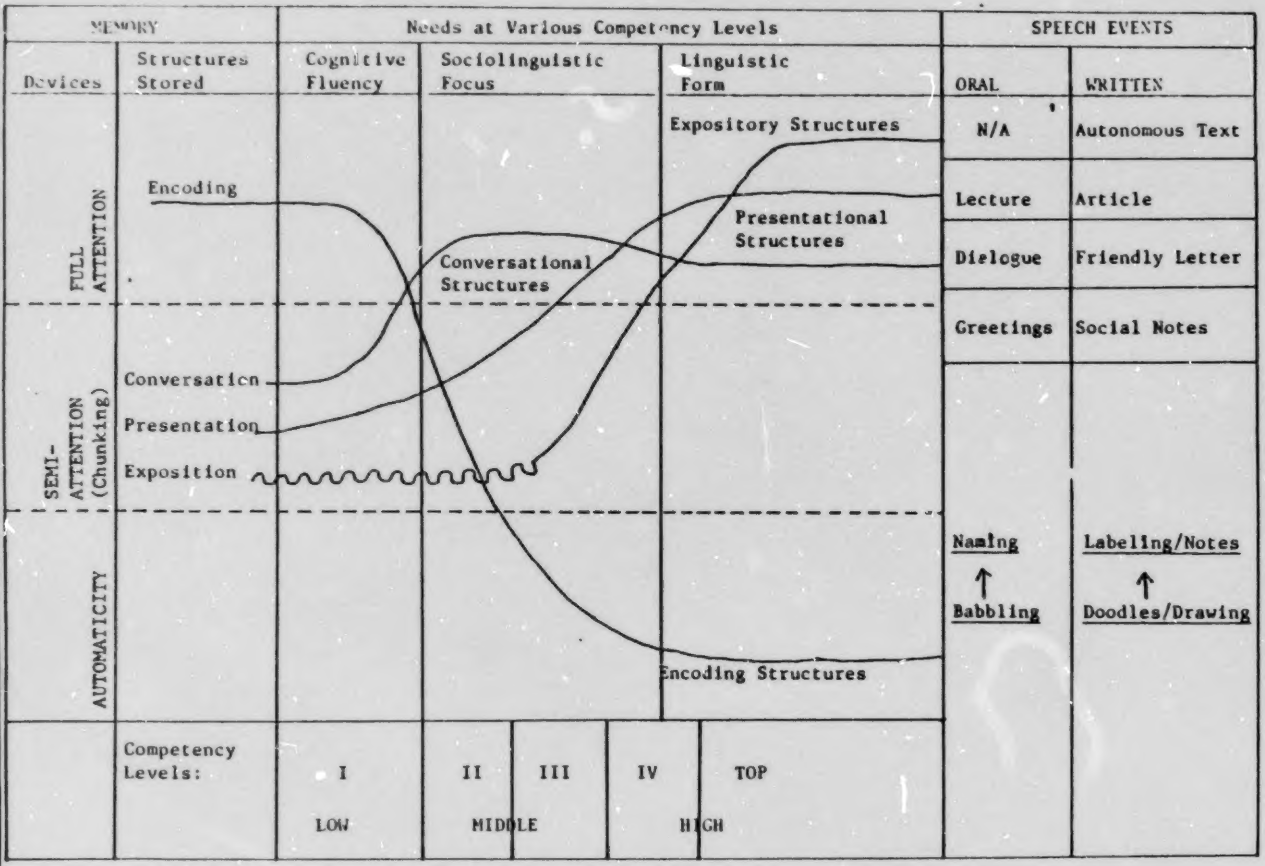
The layers at the bottom undergo automatic activation and the layer in the middle receives some attention now and then. Even though *conversational* dimensions are different from, and sometimes the opposite of, *presentational* dimensions, they still maintain an underlying presence in the text. A lecture or article without some *conversational* markers would be very unusual. Sometimes these *conversational* devices are used to signal projections of reality which are approximations (*I think*, *I believe*), even though the overall reality which is projected is definitive. At other times, *conversational* markers are used to open what eventually becomes a *presentational* speech eent. Such an opening puts the reader-audience at each, establishes a friendly relationship for what may

THE WRITING TASK

Writing Strategies

AT DIFFERENT LEVELS OF COMPETENCY

Writing Strategies


MEMORY
Needs at Various Competency Levels
SPEECH EVENTS
Devices
Structures Stored
Cognitive Fluency
Sociolinguistic Focus
Linguistic Form
ORAL
WRITTEN
FULL ATTENTION
SEMI-ATTENTION (Chunking)
AUTOMATICITY
Encoding
Conversation
Presentation
Exposition
Expository Structures
Presentational Structures
Conversational Structures
Encoding Structures
N/A
Autonomous Text
Lecture
Article
Dialogue
Friendly Letter
Greetings
Social Notes
Naming
↑
Babbling
Labeling/Notes
↑
Doodles/Drawing
Competency Levels:
I
II
III
IV
TOP
LOW
MIDDLE
HIGH

130-A

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be difficult moments ahead. Therefore, instructional programs which emphasize a shift from oral to written forms and a shift from the informality of conversations to the formality of presentations may not be adequately representing the layering effect which is, in fact, occuring in the writing.

Second, the develpment trends also show a sequence: early grades showing the characteristics of the low level, middle grades the middle level, and the upper grades the high level. Sometimes the schools translate these developmental trends into programs for each grade level. The evidence in this present study suggests that this may be a mistake. The ninth grade sample in this present study has all of the problems which occur in the various grade levels. In other words, a teacher at the ninth grade level cannot assume that encoding problems were solved because encoding are low at the ninth grade in the grade-to-grade sequence. A given ninth grade class is likely to have some students with encoding problems at least as serious as those faced by some fifth or sixth graders. Therefore, the teacher of such a class faces in one group all the problems of writing. The problems of different students have distinctive characteristics, and writing instruction, maybe more than other parts of the curriculum, may require more one-to-one conferencing and small group work with a teacher.

The four hypotheses investigated in this study identifies four different sub-tasks embedded in the writing task. Writing in schools is first of all an institutional task, meeting the demands of the public and educators; a cognitive task, requiring fluency or automaticity for some matters and attention for others; a sociolinguistic task, requiring a focus on the dimensions of an appropriate speech event; and a linguistic task, requiring the forms at the text and sentence level for autonomous written prose. The institutional task in this study, as noted earlier, was the following:

I. The Institutional Task

Topic

The minimum competency task selected by educators and the public was a personal essay telling why something was a favorite and a letter applying for employment.

Time Limits

Each task was given 50 minutes for completion.

Projected Standards

The students knew that the readers were teachers and that the writing samples would be scored on a one to six scale, each paper would be read twice, the scale would be established by comparing papers with one another, and that the final score would be the two scores added together.

It is probable, of course, that if the institutional task had been different, the cognitive, sociolinguistic, and linguistic demands would have changed, and the performance of the students would have been different. For instance, if a personal letter or a social note written in class were the institutional task, then it is likely that *conversational* structures would have dominated the top writing, not *presentational* structures. If the task had been to write a news bulletin on an event, to tell a fable about an event, to write a monologue to oneself or to give eye witness testimony on some event, then the *conversational* or *presentational* structures used by the students might have shown some differences of emphasis.

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Questions: Bloch, Europeene?

Plato, Hotchins?

Ruben, Ruben?

APPENDIX A

EXAMPLE OF CODED COPY OF STUDENT WRITING IN VIDEO SESSIONS

original and typed copy

9:07 (30 secs) Reads
9:08 (36 secs) STARTS

Whenever I feel like hanging out and relaxing, I ~~like~~ go to Lincoln Park, right ~~down~~ my street. ~~It's a recreation~~ It has a newly ~~built~~ gym and modern conference rooms. The ~~green~~ gym is mainly used as a ~~full court~~ basketball court with seats for 75 spectators. The floor was just polished and lines were sharply painted, though still very confusing. The conference rooms are used as childcare and ~~meeting rooms~~ ~~and~~ rooms for meeting. There is also an appliance furnished kitchen ~~for~~ [illegible] for the fixing up and selling of refreshments.

21 On the outside of this park, there are 3 full courts for basketball and room enough for kickball. The nets are routinely changed ~~because~~ to keep the baskets nice. Unfortunately, sand ~~[illegible]~~ from a sandlot ~~[illegible]~~ often gets on the courts and makes ~~[illegible]~~ traction difficult.

The sandlot contains a huge wooden chinese junk boat. There are ~~many~~ ladders, ~~[illegible]~~ suspension bridges, and slides ~~[illegible]~~ ~~on the boat~~ to climb and play on the junk. 5 swings and a merry-go-round adjoin the junk boat ~~[illegible] giant oak tree~~. These structures are originally designed with pre-school kids in mind, but even teenagers and adults can be ~~[illegible]~~ found sitting on them and ~~[illegible]~~ relaxing.

8 There are regular and part time recreation leaders ~~[illegible]~~ supervising this ~~block~~ one block park. ~~Over the~~ They are very friendly and have become good friends. ~~They [illegible] when the~~ On ~~a special day~~ holidays, they would give us ~~[illegible]~~ exclusive use of ~~the basketball~~ gym. Normally, the gym can be rented for $7 an hour.

One other reason I enjoy this park is that all my friends ~~so~~ go there. I think this park is very important and has done alot for the kids in our community by keeping them off the streets.

BEST COPY AVAILABLE

9:07 (30 secs) Reads
9:08 (36 secs) Starts
9:32 Done

Go to B [illegible] out words Back to Position - Wait 22 secs.

Whenever I feel like hanging out and relaxing, I'd go to Lincoln Park, right down my street. It has a newly built gym and modern conference rooms. Ⓐ The gym is mainly used as a basketball court with seats for 25 spectators. The floor was just polished and lines were sharply painted, though still very confusing. The conference rooms are used as childcare and rooms for meeting. There is also an appliance furnished kitchen for the fixing and selling of refreshments. Go to Ⓐ Wait ⑪ seconds add [illegible] Then to Next Line 55

21 On the outside of this park, there are 3 full courts for basketball and room enough for kickball. The nets are routinely changed to keep the baskets nice. Unfortunately, sand from a sandlot often gets on the courts and makes traction difficult. 67

The sandlot contains a huge wooden chinese junk boat. There are ladders, suspension bridges, and slides to climb and play on the junk. Swings and a merry-go-round adjoin the junk boat. These structures are originally designed with pre-school kids in mind, but even teenagers and adults can be found sitting on them and relaxing. Ⓘ - ㊱ sec 56

8 There are regular and part time recreation leaders supervising this one block park. They are very friendly and have become good friends. On holidays they would give us exclusive use of the gym. Normally, the gym can be rented for $7 an hour. 43

18 One other reason I enjoy this park is that all my friends go there. I think this park is very important and has done alot for the kids in our community by keeping them off the streets. 37

Ⓒ ⑬ Counts. The sandlot..... Other part added at I below
Ⓓ ⑪ only s.t. Later at I below ing added
Ⓔ ② only A written. Later at I below N added
Ⓕ ⑧ at F For fixing - Later at I below the added "for the"
Ⓗ ⑨ ADD comma after lincoln at I below ⑨ sec wait
Ⓘ Ⓖ ② mark out again later [illegible] at and Ⓘ mark out "Just" ⑥ I
36 secs Rw Ⓘ At J make corrections above Go to Next Line.

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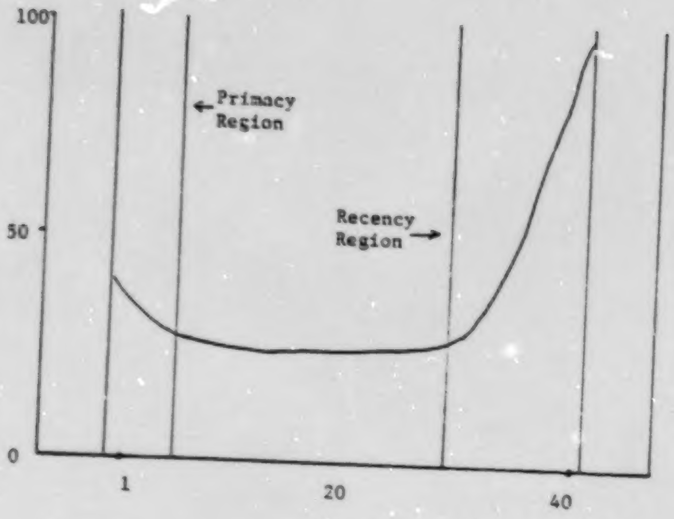
APPENDIX B

DIAGRAM OF MURDOCK FINDING



Position of Word in a 40 Word List

Data After Murdock, 1962

From Klatzky, 1975

Appendix 20

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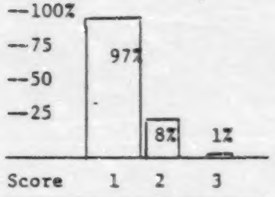
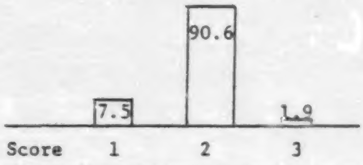
APPENDIX C

DIAGRAM OF NATIONAL RANKINGS

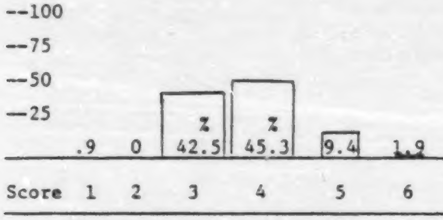
RANKINGS OF ANCHOR PAPERS BY NATIONAL SAMPLE



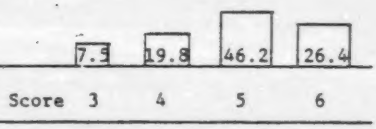
Rankings for Paper 1 (21)



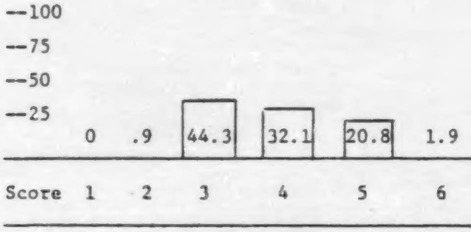
Rankings for Paper 2 (31)



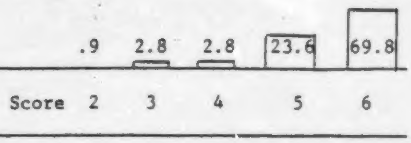
Rankings for Paper 3 (51)



Rankings for Paper 5



Rankings for Paper 4 (61)



Rankings for Paper 6 (41)

*Numbers in ( ) refer to I.D. numbers on Papers (see Appendix p.__)

Appendix I

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APPENDIX D

POPULATION AND SAMPLES FROM 1978, 1980, AND 1981

1980 Population of Ninth Graders
Submitting Essay (3,278) & Letter (3,278)

1981 Population of Students
Submitting Essay ( ) & Letter ( )

	1980 Essay Sample (3,819) (176)	1980 Letter Sample (176)	1981 Essay Sample (4,221) (170)	1981 Letter Sample (147)
I. Missing values	6 = Net 170	4 = Net 172	1 = Net 169	1= Net 146
II. Males/Females	M = 90; F = 80	M = 90; F = 80	M =82; F= 75 Unknown: 13	M = 7; F = 59 Unknown = 17
III. % Below Min. Comp.				
A. Population	64.10			
B. Sample	43.10			
IV. Topic	Favorite Person	Letter of Employment	Favorite Place	Letter of Employment
V. Grades				
A. Population	All Ninth	All Ninth	9 = 11 = 10 = 12 =	9 = 11 = 10 = 12 =
B. Sample	All Ninth	All Ninth	9 = 165 11 = 3 10 = 1 12 = 1	9 =115 11 = 2 10 = 20 12 = 5
VI. Scores Essay-1980				
2 = 103	2	3	23	37
3 = 151	4	3	0	1
4 = 783	26	16	32	6
5 = 461	14	11	2	1
6 = 845	28	22	34	35
7 = 437	0	27	1	0
8 = 467	35	24	31	9
9 = 164	19	22	0	2
10 = 125	28	29	34	29
11 = 55	9	9	1	0
12 = 17	5	5	11	26
Total = 3,819	170	171	169	146

1978 Essays of Students, 4 - 12

1978 Population =					Samples = 182 Missing Values 3=178				
Scores	Grade	Pre = 2,690			Scores	Grade	Males = /Females =		
2 = 253	4 = 218	Post = 2,271			2 = 10	4 = 5		Pre=No.	Post No
3 = 321	5 = 202	Total 4,961			3 = 17	5 = 5	Grade 4 =	0	5
4 = 515	6 = 245	Grades	Pre No.	Post	4 = 19	6 = 9	5 =	5	0
5 = 705	7 = 554	4	110	107	5 = 13	7 = 25	6 =	5	4
6 = 766	8 = 793	5	119	83	6 = 18	8 = 26	7 =	14	11
7 = 682	9 = 933	6	105	140	7 = 19	9 = 40	8 =	11	13
8 = 549	10 = 718	7	284	270	8 = 15	10 = 25	9 =	13	26
9 = 477	11 = 611	8	430	363	9 = 21	11 = 30	10 =	13	12
10 = 284	12 = 688	9	409	524	10 = 18	12 = 17	11 =	15	14
11 = 225	Total	10	477	241	11 = 16	Total = 182	12 =	5	12
12 = 138	4,961	11	356	255	12 = 15		Total = 82	Total 97	
Total: 4,961		12	400	288	Unknown = 1 Total = 182		Unknown = 3		

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A. POPULATION NUMBERS AND PERCENTAGE DISTRIBUTIONS 1977 - 1978
Grades 4-12

GRADE		SCORE											TOTAL	
		2	3	4	5	6	7	8	9	10	11	12		
FOURTH Pre-Test	No.	22	18	20	27	13	8	0	2	-	-	-	110	X=4.22
	Per.	20.0	16.4	18.2	24.5	11.8	7.3	0	1.8	-	-	-		
Post-Test	No.	14	14	24	20	22	7	5	1	-	-	-	10 7	
	Per.	13.0	13.0	22.2	18.5	20.4	6.5	4.6	0.9	-	-	-		
												TOTAL	217	
FIFTH Pre-Test	No.	23	26	16	22	14	8	5	5	-	-	-	119	X=4.39
	Per.	19.3	21.8	13.4	18.5	11.8	6.7	4.2	4.2	-	-	-		
Post-Test	No.	14	10	17	17	11	10	3	-	-	1	-	83	X=4.60
	Per.	16.9	12.0	20.5	20.5	13.3	12.0	3.6	1.2	-	-	-		
												TOTAL	202	
SIXTH Pre-Test	No.	13	15	17	21	11	12	10	4	1	0	1	105	X=5.06
	Per.	12.4	14.3	16.2	20.0	10.5	11.4	9.5	3.8	1.0	0	1.0		
Post-Test	No.	14	12	29	18	27	16	13	9	0	1	1	140	X=5.37
	Per.	10.0	8.6	20.7	12.9	19.3	11.4	9.3	6.4	0.0	0.7	0.7		
												TOTAL	245	
SEVENTH Pre-Test	No.	39	32	46	55	46	32	17	10	3	3	1	284	X=5.04
	Per.	13.7	11.3	16.2	19.4	16.2	11.3	6.0	3.5	1.1	1.1	0.4		
Post-Test	No.	14	34	50	49	53	37	23	10	0	0	0	270	X=5.04
	Per.	5.2	13.0	18.5	18.1	19.6	13.7	8.5	3.7	0	0	0		
												TOTAL	554	
EIGHTH Pre-Test	No.	40	50	77	97	68	40	39	9	8	0	2	430	X=5.13
	Per.	9.3	11.6	17.9	22.6	15.8	9.3	9.1	2.1	1.8	0	0.5		
Post-Test	No.	22	37	75	79	63	45	18	18	4	2	0	363	
	Per.	6.1	10.2	20.7	21.8	17.4	12.4	5.0	5 0	1.1	0.6	0		X=3.26
												TOTAL	793	

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A. POPULATION NUMBERS AND PERCENTAGE DISTRIBUTIONS 1977 - 1978

Grades 9-12

GRADE		SCORE											TOTAL
		2	3	4	5	6	7	8	9	10	11	12	
NINTH Pre-Test	No.	15	32	53	58	81	64	41	29	16	15	5	409 X=6.20
	Per.	3.7	7.8	13.0	14.2	19.8	15.6	10.0	7.1	3.9	3.7	1.2	
Post-Test	No.	6	10	47	67	94	90	79	56	36	21	18	524 X=7.06
	Per	1.1	1.9	9.0	12.8	17.9	17.2	15.1	10.7	6.9	4.0	3.4	
													TOTAL-933
TENTH Pre-Test	No.	13	12	41	67	79	93	70	52	26	17	7	477 X=6.80
	Per.	2.6	2.5	8.6	14.0	16.6	19.5	14.7	10.9	5.5	3.6	1.5	
Post-Test	No.	0	1	12	13	25	40	45	50	31	15	9	241 X=8.04
	Per	0	0.4	5.0	5.4	10.4	16.6	18.7	20.7	12.9	6.2	3.7	
													TOTAL-718
ELEVENTH Pre-Test	No.	1	7	16	38	67	57	57	55	27	21	10	356 X=7.44
	Per.	0.3	2.0	4.5	10.7	18.8	16.0	16.0	15.4	7.6	5.9	2.8	
Post-Test	No.	1	2	5	9	26	23	34	54	39	37	25	255 X=8.80
	Per.	0.3	0.3	2.0	3.5	10.2	9.0	13.3	21.8	15.3	14.5	9.8	
													TOTAL-611
TWELFTH Pre-Test	No.	2	7	15	26	47	61	50	67	47	50	28	400 X=8.20
	Per.	0.2	1.8	3.8	6.5	11.8	15.3	12.5	16.8	11.8	12.5	7.0	
Post-Test	No.	0	2	1	22	19	39	40	46	46	42	31	288 X=8.80
	Per.	0	0.8	0.3	7.6	6.6	13.5	13.9	16.0	16.0	14.6	10.7	
													TOTAL-688
	TOTAL N	253	321	515	705	766	682	549	477	284	225	138	4,961

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APPENDIX E

EXAMPLE CODE SHEETS

		tally	total
[16-17] AND	and,plus		
	so		
	then,next		
	or,yet		
	well		
	but		
	either/or		
	neither/nr		
	while,when		
	whenever		
	untilsince		
	if, even though, although		
	as,as soon as		
	unless		
	for(because)		
	who,whom		
	which,that(clause)		
	where, why,what		
	how		
	therefore this		
[19-20]	however, nevertheless		
	1st,2nd 3rd		
	as a res.		
	also, in addition		
	for ex.		
EMBEDDERS	still, in other wds		
	so that		
	even so		
	finally, in conclu.		
	in summ.		
	in closing		
[19-20]	further (more)		
	in this case		
	because		
	not only, but (Also)		

		tally	total
	sort of		
	kind of		
	just abt. about		
	in a way		
[22-23]	mainly mostly		
	pretty (much)		
	like to almost		
HEDGES	maybe		
	probably		
	sooner or later, sometimes		
	practically		
	on the side		
	anyway		
	in a sense (fasion)		
	perhaps		
	seems to be true could be the fact that		
	appears to be		
[25-26]	it is possible		
	rather,		
	relatively		
	generally basically		
	somewhat		
QUALIFYERS	so to spk.		
	roughly speaking		
	in a manner of sp		
	be as much as___		
	self strtr		
	tech.spk.		
	loosely sp		
	for the most part		
	as far as..		
	to a cert ex		
	with the exception		

		tally	total
	many,many alot		
	sure		
	just,right aftr		
	always		
[28-29]	all(ovr)		
	-est(adj)		
	especially		
	very		
	plenty		
	a real_		
LEAPS	of course		
	all the time		
	one,only even		
	usually		
	like wow		
	ever /every		
	really		
	in gen.		
	in essence		
	it is true that		
	indeed		
	certainly		
	obviously		
	without doubt		
[31-32]	literally		
	for the most prt		
	particularly		
GENERALIZERS	principally		
	largely, typically		
	virtually		
	details aside		
	generally		
	shall happen that		
	the pt. is that		
	naturally		
	the evidence shows		
	as a general rule		
	there are reasons why		

[34-35] your,[illegible],my			[40-41] MARKS, CAPS!			[64-65] MORAL		
[37-38] Imper.sub.			[43-44] P. Titles			[67-68] THE END		
[55-56] SLANG			[49-50] -ing, -ed			[61-62] QUEST.		
[52-53] SCOS			[58-59] SPOR			[70-71] TIME		

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APPENDIX F

ANCHOR PAPERS FOR READING

WRITING SAMPLE

No. 41

The person in my life who made a great impression on me was a friendly, strongheaded man, Mr Engstrom, who lived next door to me. He was a man, rather old, about 85 or so. He was a grandfather figure to me. I called him Grandpa Engstrom.

As a child of about 7 years, I remember running over to visit him everyday after school. We used to sit by the fire sipping hot cocoa and he'd tell me all kinds of storis about his past. One story he told me, touched me so much, I shall never forget it as long as I live.

When he was 40 years old he was by himself in a cabin out in a forest and was accidently shot in the arm by a rifle. In this Tragic accident his arm was half way blown off, but he didint panic, he forced himself to get to a Train. He had to take the train to the nearest docter who was about 10 hours away.

The docter said his arm was to be amputated or he may die. Grandpa Engstrom refused! He survived the surgery the Strong willed man he was.

Grandpa Engstrom is dead now but I still look over in his old vegtible garden, which is now just weeds and I can see him working away.

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No. 71

WRITING SAMPLE

"Great Impression"

Mrs. Christine Wilson was my teacher during my elementary years. She made a great impression on me. I remember her mostly becouse of the love and understanding she gave me. She was always there when I needed her, and she still is to this day. We had our ups and downs as normal people do, but we always managed to solve our problems.

She treated the other students as adults. not like fourth, fifth and sixth graders as we were. All of the other students as well as Teachers respected her. She has always made me feel like a daughter to her.

Today we are still very close friends even closer than before. She is one heck of a lady. I will always love Mrs. Wilson.

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WRITING SAMPLE

No. 61

I remember Aaron Miller because everyday after school he would come over my house we would take turnes doing that. Aaron lived on Pleasant Street and right by me, that was all in the fifth grade we had so much fun together running together, playing football on his grass, letting my dog tackle us run after us and best of all riding in the back of his dads truck.

I remember we used to bring cans to school along with straws and we would shoot paper through them at the clock. One day I went over his house and we were throwing rocks at some bushes and some bees flew out at us and we were running like mad bulls down the street. I remember those days and I remember him as my best friend.

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Hi there! My friend's name is Linda Yee. She was born in Hong Kong. She was sixteen years old. This year she was in 10th grade. She was a real smart girl. And she had a big family.

In that time I was very happy living with Linda. She was very friendly and industrious, honest..... Even though she was my real good friend. When I was in Hong Kong I always went to school with Linda. We are the same grade. After school she always came to my home to study and helped me. On the weekend we went to the restaurant and went to the theater. We had fun every day.

After that I was very happy. When I came to the U.S. Linda gave me a beautiful jacket for me, and say good-bye. Since she was my good friend I always send the letters to her. And she sent me a letter that she was very bored. Time passed very quickly. I hoped I'll go back to Hong Kong and have fun with Linda again. I've enjoyed working with my real good friend in Hong Kong. It was a wonderful day.

Love

Chin

Feb 15, 1979

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WRITING SAMPLE

No. 31

The person I remember the best was my bestfriend In elementary school she also live up the street from she. She had just move from Danvill Her dog got loose and I helped her catch him. I new her for along time until she move We still try to keep in touch. But I will never forget the memories.

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No. 21

WRITING SAMPLE

Program produces
Rdol
Oakland, Ca 94606

I was in impression Buy my Mother she is a great women I
live with here it is just me and my mother my father not live
with us me and my Mother go a lot of place together she gets
involve with my sport and help me she makes sher I go to a good
school and she make sher I take good care of my body and I have
and impression on my Mother Because she is a great mother.
Ms. Banks.

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APPENDIX G

SOME CONTRASTS OF WRITING PRODUCED IN SCHOOLS

Extremes: Contrast of Social Notes and Textbooks

Pilot Study by Miles Myers

ESSAYS AT VARIOUS LEVELS

APPENDIX		CLASS NOTES	JOURNALS	LEVEL I	LEVEL II	LEVEL III	LEVEL IV	LEVEL V	LEVEL VI	TEXTBOOKS
	Total Words-Combined Cases			218		432		712		
PERSONAL ADDRESS (COOPERATIVE)	Total Words-Individ. Cases	873	2654	159	59	189	243	306	406	1157
	You-Direct-Address	36	28	0	0	2	0	0	1	0
	We (You and I)	4	10	2	0	0	0	0	0	0
	Hi/Bye/This	6	6	0	0	0	0	0	0	0
	Direct Questions	6	1	0	0	0	1	0	0	0
	TOTAL	52	45	2	0	2	1	0	1	0
	T/T - Words	.060	.017	.012	0	.010	.004	0	.002	0
IMPERSONAL ADDRESS (NON-COOPERATIVE)	Question-Monitor	0	0	0	0	0	0	0	0	0
	Editorial We	0	0	0	0	0	0	0	0	8
	A/ The + abstract noun The sciences, the knowledge	4	13	4	0	7	3	4	13	53
	TOTAL	4	13	4	0	7	3	4	13	61
	T/T - Words	.005	.004	.025	.016	.010	.041	.026	.034	.052
PERSONAL SUBJECT (COOPERATIVE)	Me, My, Mine, We (author & friend)	15	42	10	2	8	12	10	8	0
	I remember I	40	117	7	1	7	8	7	7	0
	TOTAL	55	159	17	2	15	13	16	15	0
	T/T - Words	.063	.059	.106	.034	.079	.053	.052	.037	0
IMPERSONAL SUBJECT (NON-COOPERATIVE)	Mr., Mrs. Grandpa	0	0	0	0	0	0	3	2	0
	Other Person Subject (one)	0	0	0	0	0	0	4	2	8
	TOTAL	0	0	0	0	0	0	6	4	8
	T/T - Words	0	0	0	0	0	0	.020	.010	.007
INDEX	Distancing: Conversations	.123	.076	.118	.034	.089	.057	.052	.039	0
	Distancing: Presentations	.005	.004	.025	.016	.010	.041	.046	.044	.059

APPENDIX

		CLASS NOTES	ESSAYS AT VARIOUS LEVELS							
			JOURNALS	LEVEL I	LEVEL II	LEVEL III	LEVEL IV	LEVEL V	LEVEL VI	TEXTBOOKS
	Total Words-Combined Cases			218		432		712		
PROCESSING CHAINS (PARTICIPANT)	Total Words-Individ. Cases	873	2654	159	59	189	243	306	406	1157
	Joiners: and, but, or	34	83	8	2	4	10	7	9	59
	Sequencers: so, next, then	7	16	0	0	0	0	0	2	4
	TOTAL	41	99	8	2	4	10	7	11	64
	T/T - Words	.046	.037	.050	.034	.021	.041	.023	.027	.054
ORGANIZERS (SPECTATIVE)	Embedders: for, because, as when, whenever, while, why, after, even after, even though, if, therefore, for example, --ing (mod)	11	26	5	0	3	5	14	10	76
	Coordinators: first, second, third/ also, on the other hand, in addition, so much that	0	7	0	2	0	3	4	3	9
	TOTAL	11	33	5	2	3	8	18	13	84
	T/T - Words Public (yes/no) Bound (yes/no)	.012	.012	.031	.034	.016	.032	.059	.032	.072
ARTIFACT MARKER (SPECT.)	Title (yes/no) Printed (yes/no)	0	0	0	0	0	1	1	0	16
	Paragraphing (no), special letter	0	7	0	1	3	2	5	7	10
	TOTAL // T/T - Words	0	7/.002	0	1/.016	3/.015	3/.012	6/.020	7/.017	26/.022
EVENT MARKER (PARTIC.)	Caps (OUCH), !, Greetings, ( ) The End Closing	37	3	6	0	2	1	0	1	0
	TOTAL T/T - Words	.042	.001	.037	0	.010	.004	0	.002	0
	Combined Score: Conversations (Processing/Modeling)	.088	.038	.087	.034	.031	.045	.023	.029	.054
	Combined Score: Presentations (Processing/Modeling)	.012	.014	.031	.036	.031	.047	.079	.049	.094